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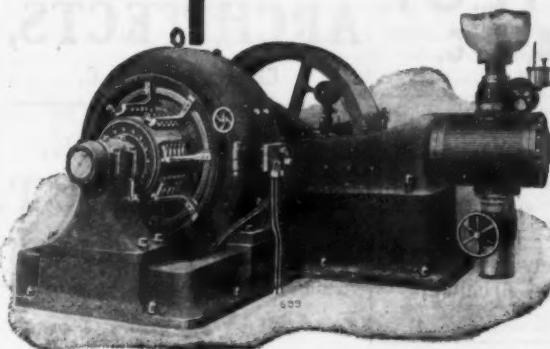
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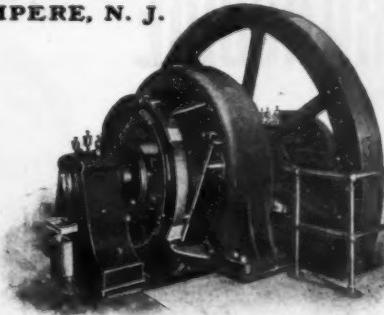
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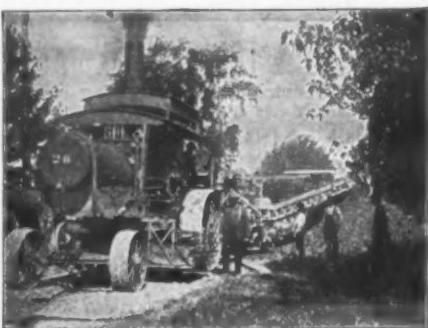
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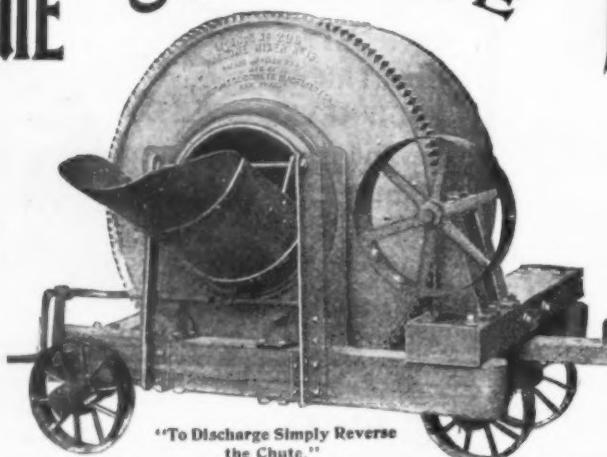
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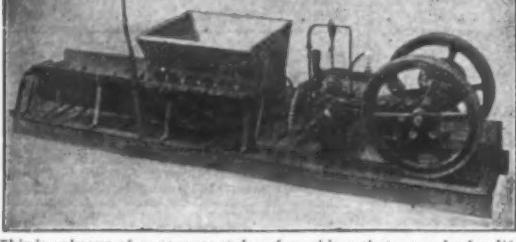
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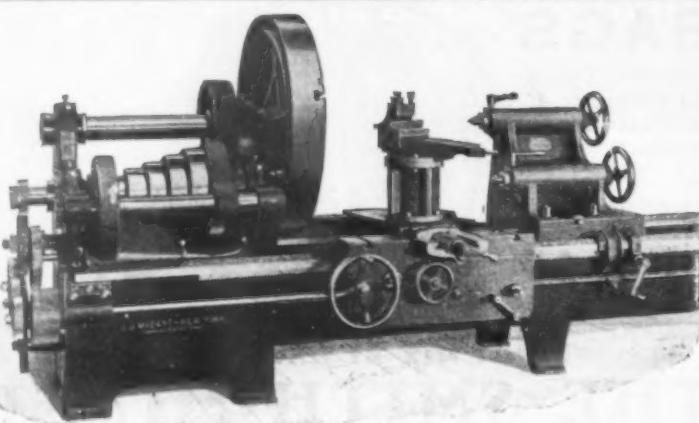
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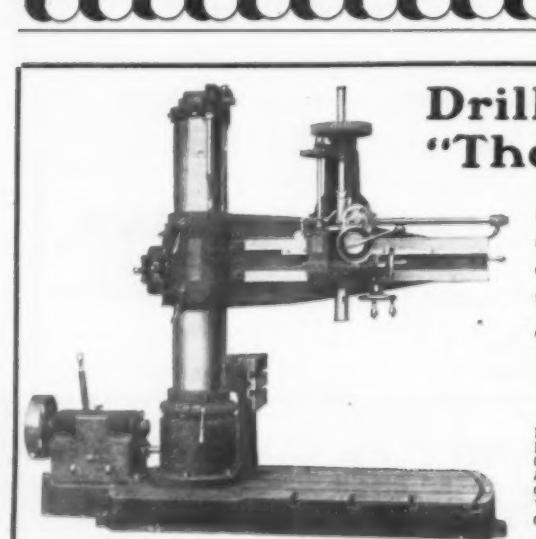
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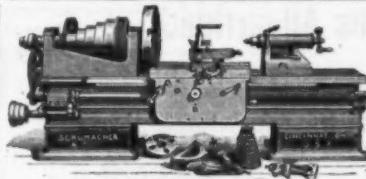
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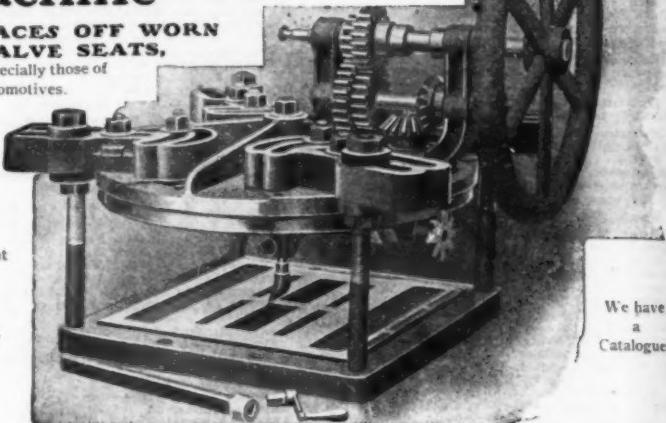
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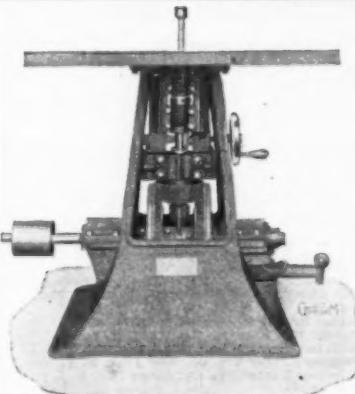
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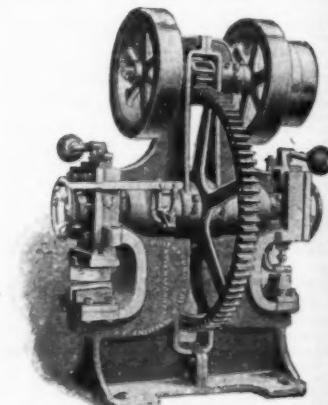
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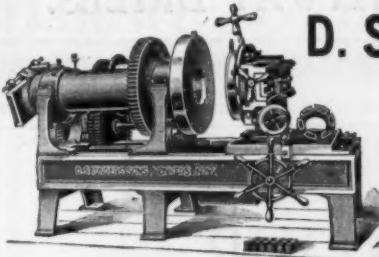
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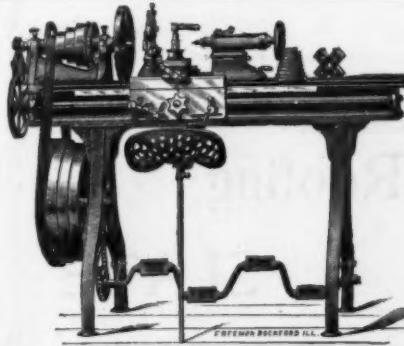
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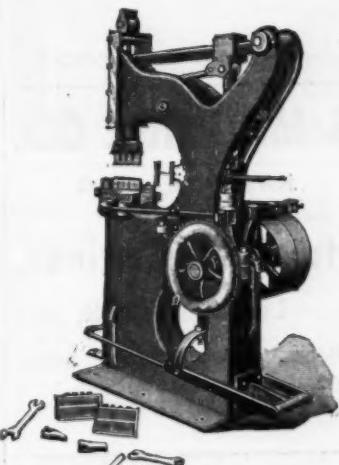
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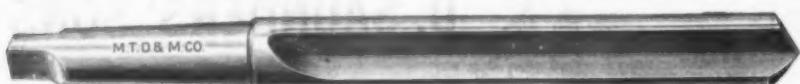
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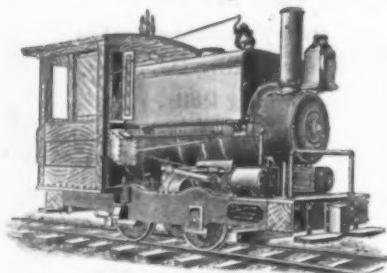
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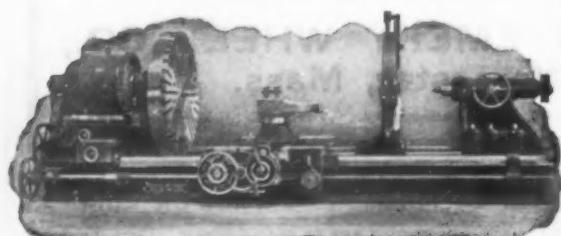
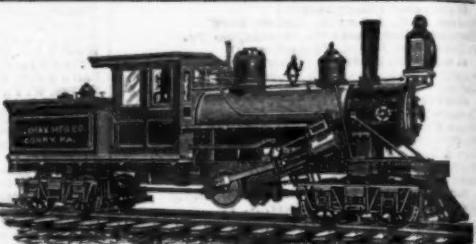
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INDEX See Page 30.

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Detroit Graphite Mfg. Co., Detroit, Mich.
Dixon Crucible Co., Joseph, Jersey City, N. J.
Eastern Granite Products Co., New York, N. Y.
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Ironsides Co., Columbus, O.
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Wisconsin Graphite Co., Pittsburgh, Pa.

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Garrett, G. S., & Son, Co., Philadelphia, Pa.
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Standard Paint Co., The, New York, N. Y.

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Wisconsin Graphite Co., Pittsburgh, Pa.

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Richmond Pattern Works, Richmond, Va.

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Richmond Pattern Works, Richmond, Va.

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Barrett Mfg. Co., Philadelphia, Pa.

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Aitchison Perforated Metal Co., Robert, Chicago, Ill.

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Harrington & King Perforating Co., Chicago, Ill.

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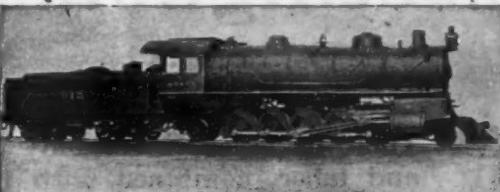
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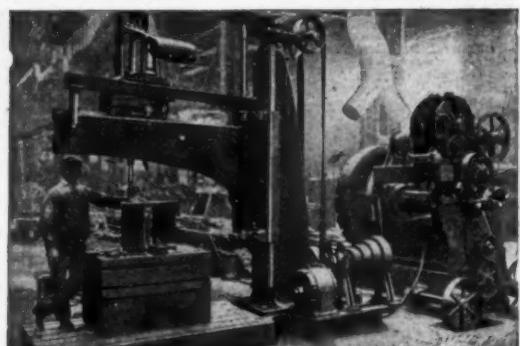
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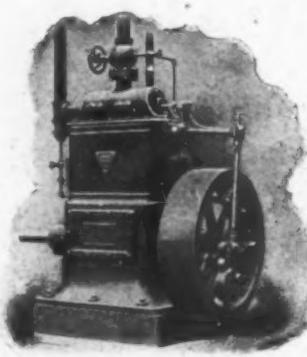
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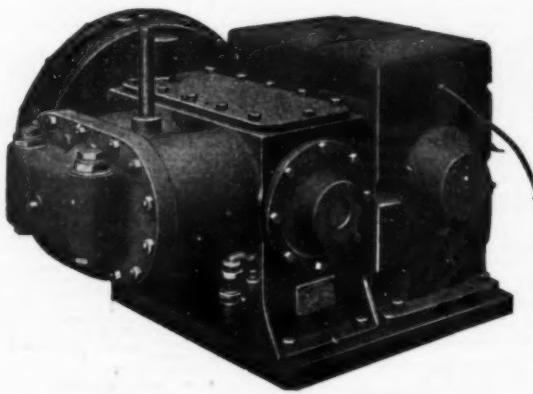
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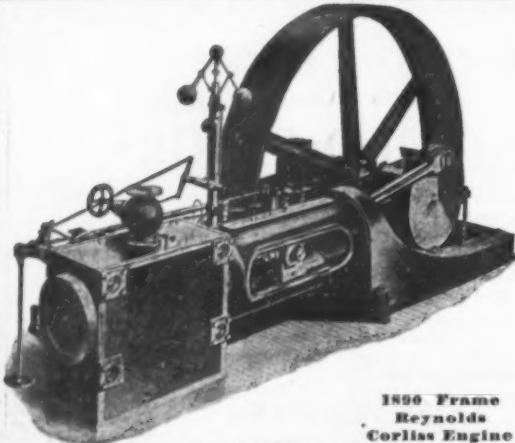


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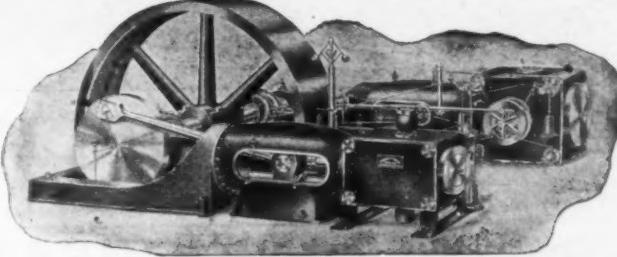
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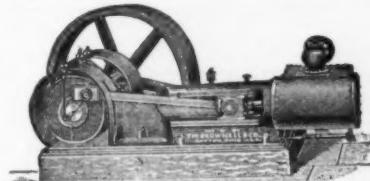
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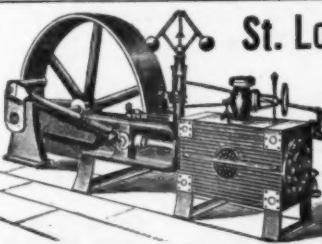
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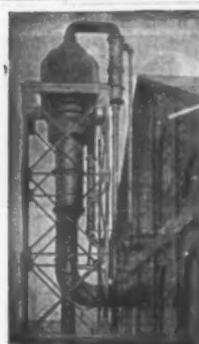
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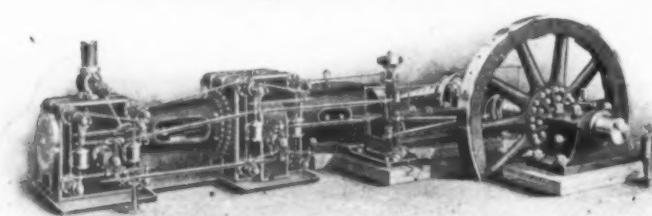
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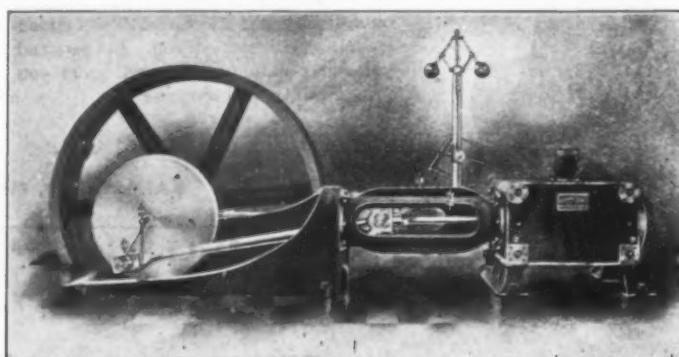


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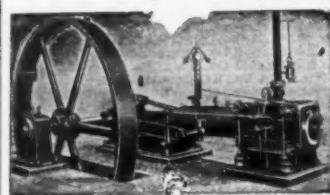
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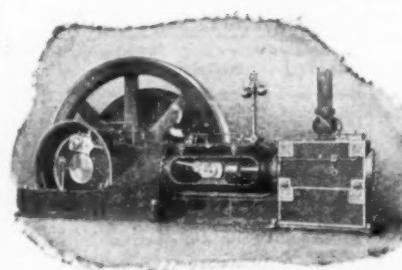
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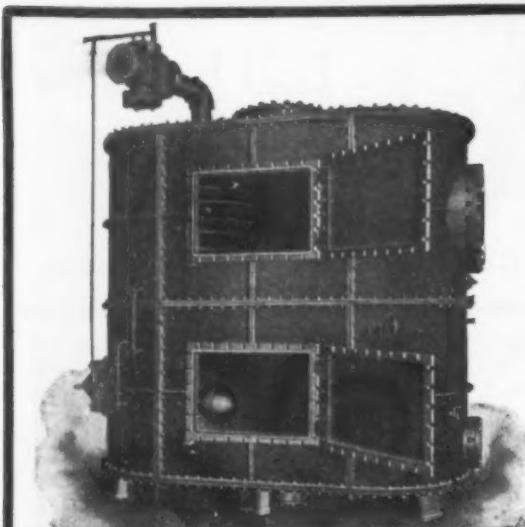
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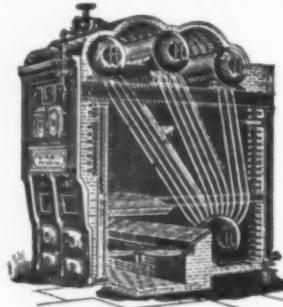
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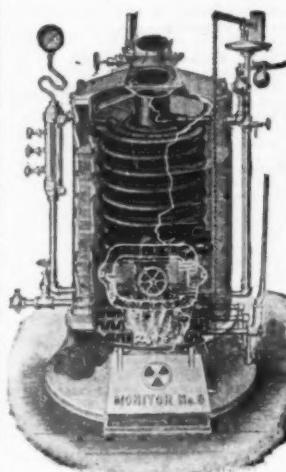
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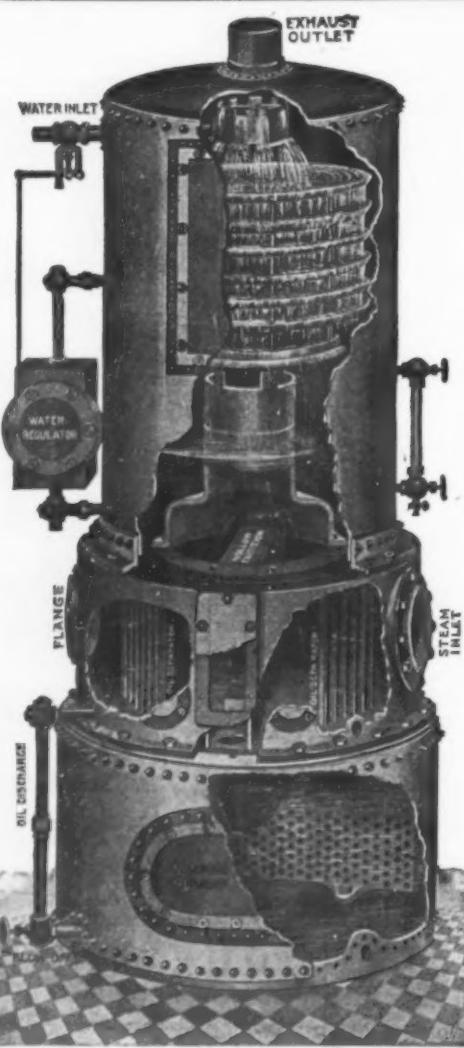
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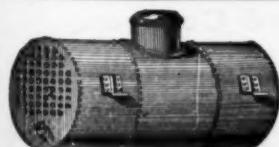
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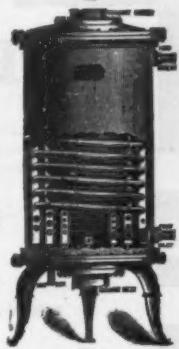
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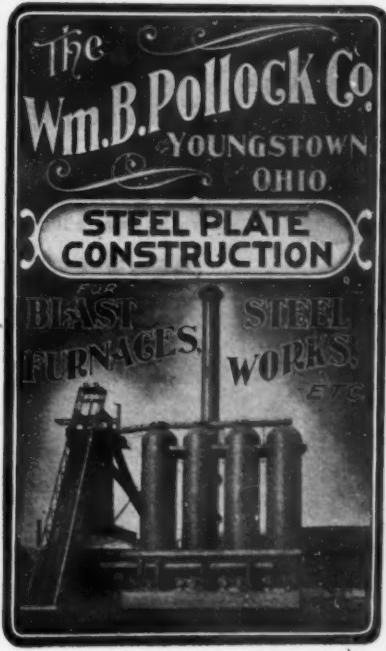
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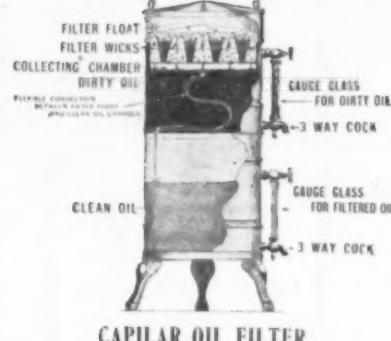
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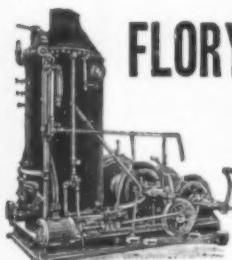
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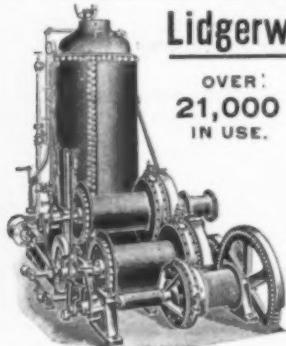
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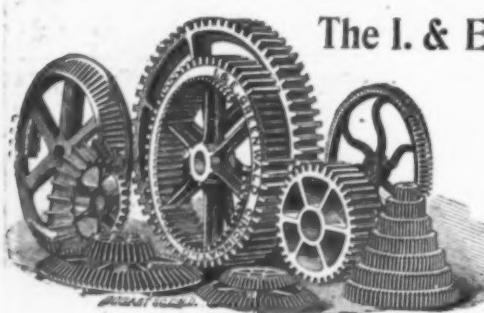
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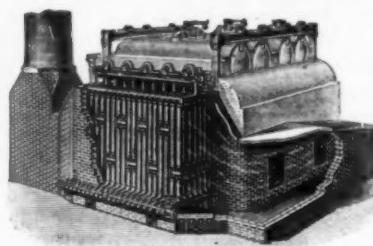
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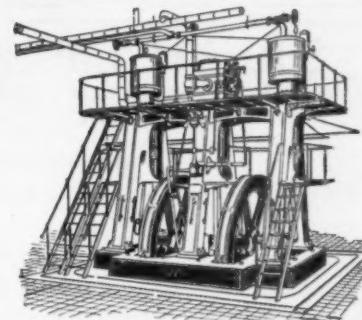
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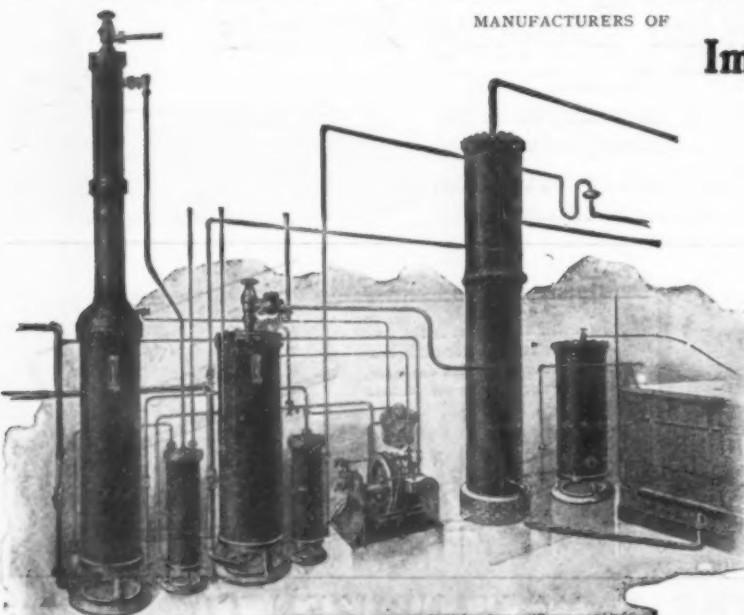
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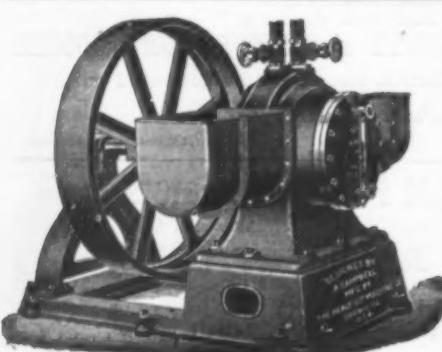
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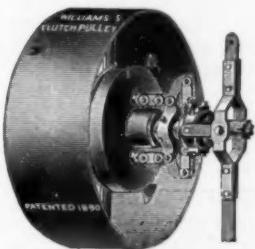
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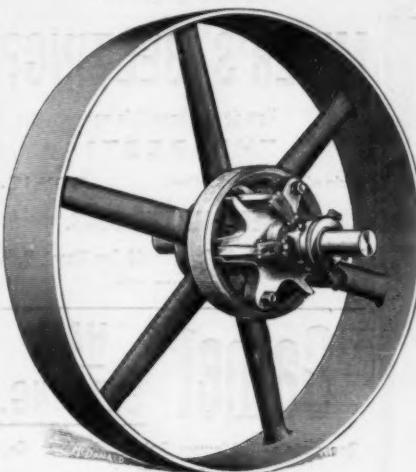
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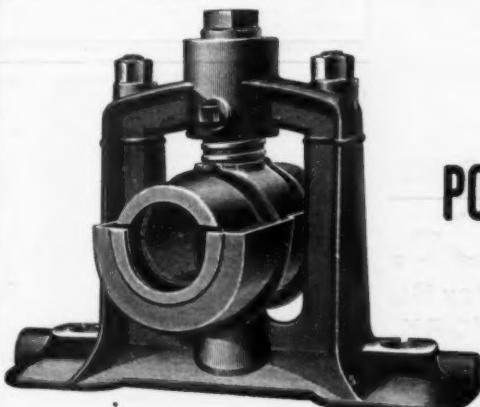
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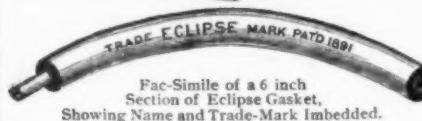
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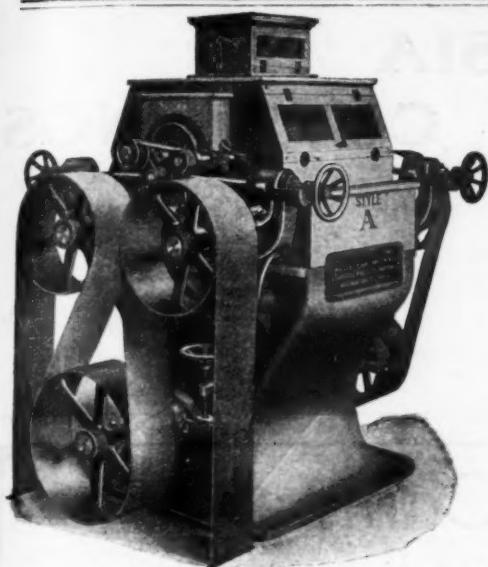
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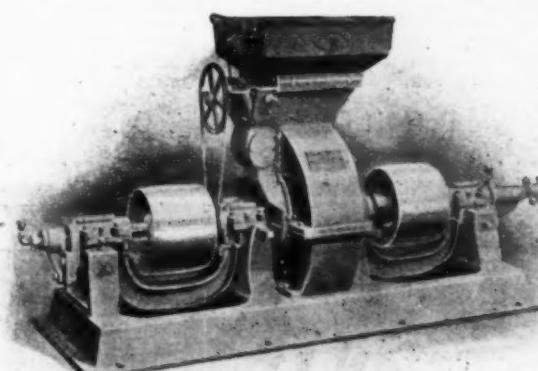
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BRANCHES—New York, Philadelphia, Boston, Pittsburg, Cleveland, Cincinnati, Charlotte, Atlanta.

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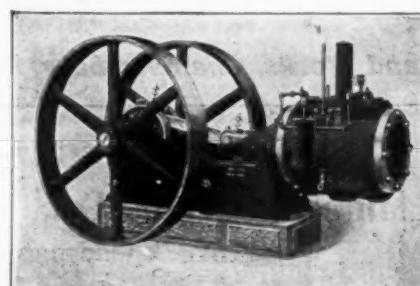
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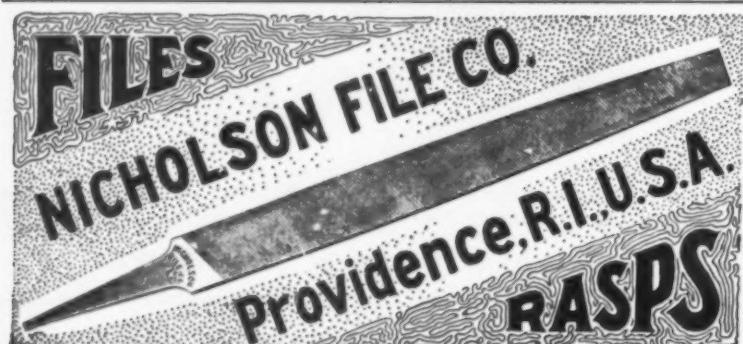
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MANUFACTURERS' RECORD.

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

VOL. XLIV. NO. 17.
WEEKLY.

BALTIMORE, NOVEMBER 12, 1903.

\$4.00 A YEAR.
{ SINGLE COPIES, 10 CENTS.

Manufacturers' Record.

PUBLISHED EVERY THURSDAY BY THE
Manufacturers' Record Publishing Co.

RICHARD H. EDMONDS, President.
THOMAS P. GRASTY Vice-President.
FRANK GOULD, Secretary-Treasurer.
OFFICE: MANUFACTURERS' RECORD BUILDING
BALTIMORE.

RICHARD H. EDMONDS,
Editor and General Manager.

THOMAS P. GRASTY,
General Staff Correspondent.

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TO FOREIGN COUNTRIES, * 20s. 6d. a Year.

BALTIMORE, NOVEMBER 12, 1903.

COPY FOR ADVERTISEMENTS.

Advertising copy (changes or new
advertisements) should reach us
Saturday Morning to insure insertion
in the issue of the following week.

For the first issue in the month
we should receive copy by Friday
Morning of the week preceding.

THE DAILY BULLETIN of the Manufacturers' Record is published every business day in the year for the purpose of aiding manufacturers and business men generally who need to keep in daily touch with the new industrial, railroad and financial developments of the South and Southwest. Supplementing and in connection with the work of the Manufacturers' Record, it is an invaluable aid to all who are seeking business in the South and Southwest, the most wonderfully endowed section of America, where industrial, railroad and financial activity is creating an ever-widening market for machinery of all kinds, railroad equipment and building supplies, and for financial operations, etc., and where the knowledge and skill of the engineer and expert will find their largest field of operation.

The Daily Bulletin is intended simply to cover every day the work of the "Construction Department" of the Manufacturers' Record in reporting every new mining, manufacturing, railroad and financial enterprise organized in the South and Southwest, and it is not intended to be a general daily newspaper. To all who want to be advised every day of every new enterprise organized in that section it is invaluable.

THE SUFFERERS FROM LABOR DIS- PUTES.

In a letter to the Manufacturers' Record Mr. W. D. Hodson, general manager of the National Sweeper Co. of Marion, Ind., a member of the National Association of Manufacturers, writes as follows:

We have just passed through a strike of nearly three months' duration, a time of riots, lawlessness and mobs. Those of our employes who remained loyal to us (not union men) fought and stood bravely by us under the most trying conditions; had their lives threatened, stones and bricks thrown at them, their supplies shut off at the stores, their wives and children insulted. You undoubtedly know it all; it is not a new story.

It was not a question of shop rules, hours

or wages—they are now working for less elsewhere—merely a matter of who should run our business, a matter of union recognition, union shop. We had met demand after demand, and a halt had to be called. Then the strike. With the moral support of our association and the assistance rendered to us by our local Employers' Association, it has ended with a grand victory for us all over unionists.

Now, the boycott; more anarchy. Not only an attempt to a further encroachment upon our rights, but upon those of the dealers who wish to handle our product. We have absolutely no fear of it. It is bound to redound to our benefit. But to the great victory already gained we wish to add even a more decisive one. We want to down the boycott; break its back in its very inception, rather than permit it to die its natural death by the law of time.

This is about as severe an arraignment of the boycott as we have seen in recent years. It comes not from a theorist, not from a trade-politician, but it is the call of one who has experienced the practical evils resulting from the extravagance to which certain forms of organized labor have committed themselves under unwise leadership. It is a call not merely of one manufacturing concern or of one individual, but of thousands of men who demand that they be permitted to conduct their business as they see fit within the limits of the law, and it is being echoed more and more effectively by the millions of American citizens who are, after all, in the aggregate the principal sufferers from disputes between employers and employees, and who see in the boycott a cowardly menace to the rights of the individual citizen.

The damage from a strike does not stop at the loss of wages of the strikers or the impairment of the business of the employing individual or corporation. It is a drawback upon the whole community immediately concerned, and, as in the case of the Pullman strike and the anthracite coal strike, a source of loss and suffering for hundreds of thousands of persons in widely-scattered portions of the country. When, as too frequently happens, the always lurking lawless element takes advantage of acute conditions to wreck its purposes, the strike entails loss of life and destruction of property, involving the interest and welfare of many innocent individuals. So it is with the boycott. Exerting, through its secrecy, a force vastly incommensurate with its real power, it extends far beyond the points intended to be touched, and rippling with ever-widening circumference, it sets in motion energies unthought of, perhaps, at its center, but none the less baneful on that account.

Resort to force in settlement of any dispute is bad enough, as no dispute has ever been settled right in that way. Resort to the secret force of the boycott has the additional vice of being cowardly and contemptible. The reaction from it, if persisted in, will damage labor more than any other element in society.

Advertisements of Southern localities offering special advantages for the location of manufacturing enterprises will be found on pages 54 and 55.

THE WEAKENING OF NATIONAL CHARACTER.

The mercurial temperament of the American people, which seems to be tending toward a condition where we would more nearly resemble the Latin races than the sturdy qualities of the Anglo-Saxon as typified in the English people, is well worth our serious thought and study. This tendency is seen in every phase of our national life—in politics, in religion, in business, in yellow journalism, no longer confined to a few conspicuously sensational papers, but permeating almost the entire press of the country. It is seen in unpardonable falsehoods in seemingly most reputable journals wherever there is an opportunity to denounce great business organizations—falsehoods so evident that it is amazing that any man realizing the responsibility of his position as an editor dare give them publicity. It was seen to its fullest extent in the wild rush into the Spanish War, where each party tried to outdo the other in hurrying it forward; it was still more pronounced when the whole country would be in great terror one day for fear the Spanish ships would destroy all our Atlantic and Gulf cities, and the next day in the wild enthusiasm over the capture of some small trading vessel; it was seen in the worship accorded to Dewey, making him the greatest hero of the world's history, and the wild plaudits which heralded his home-coming; it was still more pronounced when from that pedestal he fell simply because he deeded to his wife—a very natural thing—a house that the people had given him. From being the world's greatest hero, the wave of criticism swept him almost into outer darkness and oblivion.

A religious paper in Richmond in a late issue, under the title of "The Door Shut in Their Face," editorially discusses the trust question in a spirit and with lack of truthfulness which illustrates the point of our mercurial temperament and of our tendency to unbounded exaggeration. It says:

Let a young man with limited capital begin to search for a suitable opening for himself and money. He finds that great factories leagued together, controlled by one management, will soon drive him to the wall by underselling. He can't make matches, for a Trust owns the patent machine and process. He dare not attempt to turn out cotton plow lines, for a Trust with millions will cut prices till he fails. What is the upshot? Clever young men are crowding into "professions" already overbrimming.

The era of individual enterprise has gone by. It is plain as your nose on your face that the Trust is provoking an internecine war. The masses feel. They do not reason.

The Trust is incubating cocatrice eggs. There is an adder in each shell. It will sting society till men by millions, made mad-dogs by the poison, tear, with venom on the tooth, till civilization turns to a nest of vipers.

Could the wildest of yellow journalism surpass that? As a matter of fact, there never was in the world's history such a demand for men—for men equipped to do the world's work of industrial development. Every technical school in the country has a greater demand for its graduates than the supply. Lack of opportunity for young men! Why there never were such opportunities known before. We have built up a false system of education which sends thousands of men into professions who ought to be out in the world doing manual work to their own good and the world's; but in the real work—the work which counts in the advancement of science, in the creation of employment in the utilization of Nature's resources for the upbuilding of the country—there is an urgent pressing demand for young men of brains and brawn and skill. But this statement of the Richmond paper is only one of thousands of illustrations that show our trend of thought and character. J. P. Morgan, one of the greatest creative forces of the age, undertakes to do what the energy of the country has failed to accomplish, and makes a brilliant move looking to the restoration of America's mercantile marine to its former place in the commerce of the world. He organizes for this purpose a giant corporation, the International Mercantile Marine Co., and startles all Europe with the magnitude of his plans. The governments of Great Britain and Germany put into motion every influence and every financial resource needed to fight this one man, and there he stands alone. Seeking to build up our power on the sea, he meets the strongest opposition, not from foreign individuals or from foreign corporations alone, but from these and from their governments. Instead of being backed by the power and influence of his own country in this titanic struggle, he finds only bitter criticism republished from English papers and stabs in the back from press and people. To read these criticisms one might suppose that Morgan had undertaken to wreck and ruin the American people, when, in his broad grasp of world affairs, he had simply undertaken to do what for forty years the people and the government had in vain tried to accomplish. The criticisms of Morgan are but on a par with the criticisms of every other great leader who becomes a dominating power in finance or business, and each must look to see his turn come, and with a bitterness and injustice in proportion to the magnitude of what he accomplishes.

In olden days the world was ruled by force and the measure of a nation's power was its army. The great general represented the strength and force of a nation, and the Napoleons, the Hannibals, the Alexanders were the dominating powers of their day. Now, instead of armies and generals as the controlling powers, we have commerce and industry, and the men who lead in these are as much born to command as was ever a Napoleon, a Lee or a Grant. The men who stand before the world as the great creators of industry, the great developers of railroads and manufactures—the Morgans, the Rockefellers, the Archbolds, the Goulds, the Carnegies—even though they often make mistakes—and for their mistakes the Manufacturers' Record has no apology to offer, except that to err is

human—even though they sometimes wage among themselves bitter warfare, where dollars take the place of cannon and rifles, are the commanding generals of this age. They are doing a work which, despite mistakes, requires as great ability, as great foresight as was ever possessed by the greatest general who ever led an army to victory, and certainly they deserve more commendation, for they are building up and creating employment where the others wrecked and ruined by war.

Is it not time for us to think soberly and seriously on these questions and no longer be led into the great extremes which indicate a weakening of the solid character of our people? We are in danger of losing the sturdy strength, the equipoise which we had in former times—a strength and equipoise shown, probably as never before, by England during the stormy times of the last five or six years, when every fiber of the nation has been tested by industrial depression coincident with a costly and unpopular war.

SKEPTICISM OF A GOVERNMENT STATISTICIAN.

Mr. S. N. D. North, director of the census of the United States, has been kind enough to send to the Manufacturers' Record a copy of an address of his at the Georgia State Fair in which the following appears:

Mr. Edmonds of the Baltimore Manufacturers' Record declares that "since 1900 the number of Southern spindles has increased to 8,000,000." I suspect he has allowed his enthusiasm to inflate his figures.

We happen to know that Mr. North's skepticism with reference to Southern cotton spindles is due to the fact that the figures appear to him incredible, and that if they are correct, he says "nothing at all parallel to the development of the Southern cotton manufacture since 1900 was ever known before in any branch of industry in any country in the world."

Mr. North's skepticism was expressed in an address dealing with the best system of collecting cotton statistics, and designed to enlist the co-operation of Southern cotton-growers with the United States government in systematizing and perfecting "its machinery for crop reporting." If the perfection of the machinery is to result in such embarrassments for the cotton-growers as that latent in the bear interview of Secretary Wilson of the Department of Agriculture back in August, it is not likely that the cotton-growers or any other agricultural class in the country will encourage such perfection of government machinery. Moreover, in suggesting that the figures of the Manufacturers' Record have been inflated the director of the United States census does not seem to be aware of the fact that the census is by no means infallible, and that the figures of the Manufacturers' Record questioned by him are not materially dissimilar from the figures of two other independent statistical authorities of the country, which, like the Manufacturers' Record, do not have the same basis for their figures as that of the census.

The census of 1900 did not include idle spindles which were likely to be put in operation again, and gave the total active cotton spindles in the textile industry for eleven Southern States, not including Maryland, as 4,354,034.

For that year the Commercial and Financial Chronicle of New York, upon lines which it had followed since 1887, reported for those eleven States 4,525,707 "live" spindles, of which 4,255,951 were running, these figures not including spindles in establishments which had been idle all the season, and the additional note being made that much new machinery had been put in operation within the past few months, increasing the number of spindles appreciably. For 1903, on the same basis and with the same note, the figures of the Commercial and Financial Chronicle were 7,024,817 "live" spindles, of which 6,699,773 were running.

Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange for more than a generation and long recognized

as an unquestioned statistical authority in cotton, reported in 1900 for the mills in the same eleven States consuming cotton 6,253,339 spindles, of which 4,787,406 were in operation, 47,346 idle and 1,418,497 new but not completed, and in 1903 he reported 8,233,459 spindles, of which 6,874,638 were in operation, 174,576 idle and 1,184,245 new but not completed. The figures for 1903 did not include 95,210 spindles using foreign cotton, and included the 160,036 spindles in South Carolina mills active until June 6, when they were damaged by the Pacolet flood.

The figures of the Commercial and Financial Chronicle are 975,000 short of the round-figure statement of the Manufacturers' Record, which included the new spindles not completed, and the figures of Colonel Hester were 300,000 greater in 1903. There is no material difference between the figures, with their limitations, of the census of 1900 and those for running spindles of the Financial and Commercial Chronicle and of spindles in operation of Colonel Hester for that year. If Mr. North had investigated the matter carefully he would have discovered that neither the figures of the Financial Chronicle, of Colonel Hester nor of the Manufacturers' Record have material variation from the facts. Even without the figures of his own statisticians he may comprehend the wonderful advance made in the textile industry in the South since 1900 by considering a few figures of the consumption of cotton by the spindles there. In the season of 1889-90 these Southern mills consumed 546,894 bales. In the season of 1890-1900 they consumed 1,597,112 bales. Between the two census years consumption increased 192 per cent. In the season of 1902-1903 the consumption was 2,000,729 bales, an increase since 1900 of 25 per cent. In the ten-year period the number of bales annually consumed in the South increased 1,050,218; in the three-year period the increase was 403,617. If the three-year rate is maintained during the next seven years, 1910 will find the South consuming more than 3,300,000. Be that as it may, if Mr. North is looking for unparalleled industrial development he will probably find more in the figures of Southern cotton manufacturing for the ten years behind 1900 than for the three years since then. But because such figures are large he should not be skeptical about them. As he becomes more and more acquainted with Southern statistics he will be obliged to change his measure of the incredible.

HAMPERING THE RAILROADS.

In a letter to the Manufacturers' Record Mr. Charles Hamilton of Waco, Texas, vice-president and general manager of the Texas Central Railroad Co., makes a strenuous protest against artificial conditions in Texas affecting seriously the operations of the railroads and threatening to be a drawback upon the development of the State. He writes:

As long as the railroad commission of Texas maintains its present attitude of hos-

tility towards railroads, and as long as the attitude of antagonism assumed by the legal fraternity of Texas, backed up by such juries as they are able to select, continues to persecute railroads and rob them of the meager earnings that the railroad commission allows them to accumulate, there will be no more railroad construction in Texas.

The first thing a railroad manager does when he opens his morning paper is to look at the column relating to court proceedings, to see how many personal-injury claims and other sorts of damage suits have been filed against his company since the preceding morning. It is not an unusual thing to read of suits aggregating anywhere from \$90,000 to \$125,000 having been filed against railroad corporations in some of the courts of the State since the previous morning.

We have had for several years in contemplation the building of two branch lines of about fifty-five miles each, also an extension of the main line, but for the reasons given above we have abandoned any idea of spending any more money in Texas, and are devoting our very best efforts in the direction of economy in the operation of our present line, in an endeavor to earn a sufficient amount of money to meet the drafts made on us in the payment of alleged personal-injury judgments and other claims.

This is another strenuous protest against short-sighted exercise of power by officials and the profession of shysterism by members of the bar to which the attention of the Manufacturers' Record has been called several times of late. Though not confined to Texas, the evils in administering the laws relating to corporations are probably more pronounced in that State at the moment than in other portions of the South. Other States have gone through the experiences which it is now the misfortune of Texas to be undergoing and have learnt wisdom therefrom. But in many States besides Texas the evil of the attorney-at-litigation is rampant, and is felt most keenly by the railroad, because that is a form of corporation longest established and most familiar to the public. The attorney-at-litigation, whether he is a candidate for the legislature, where he expects to graft the corporation, or is content to ply his art in suits for damages on account of killed cows, crushed fingers or bruised feelings, plays deliberately upon prejudice, either upon the part of uninformed voters or of juries selected upon the plan of securing the best reflection of the unintelligence of a community. The remedy for the evil lies in a stirring up of public opinion in favor of the influences which contribute directly to the material development of the State—the influences which in these times are best manifested in corporate action and in encouragement of the courts to rebuke shysterism of high and low degree.

AN UNFORTUNATE ATTITUDE.

In many acknowledgment of its mistaken allusion to Gen. M. W. Ransom, to which the Manufacturers' Record called attention, the *Progressive Farmer* of Raleigh, N. C., says:

Re-reading our rather hastily-prepared account of the Greensboro reunion, we are convinced that one reference to an aged and distinguished North Carolinian should not have been made, because it was unnecessary and because it was so unfortunately worded as to suggest lack of respect for a man full of years and of honors. No one, we are sure, is further from such a feeling than we are, and our only object was to question the wisdom of trading on the reputation of aged veterans, when the effect of bringing them forward is merely to give a pitiful contrast to their old-time strength and eloquence.

So, as was suggested at the time, men who from far and near accepted invitations to the Greensboro conference are likely to ask what could have been the purpose "of trading on the reputation of aged veterans?" Who was to be benefited thereby?

Be that what it may, the Manufacturers' Record takes pleasure in reproducing

the following from a letter it has written to the editor of the *Progressive Farmer*:

Our protest against your editorial which we criticised was inspired by our conviction that it reflected—and we are convinced without intent on your part—the attitude which a half-dozen of the rising generation of North Carolinians have assumed toward North Carolinians of the immediate or remote past. Our belief is that this attitude is due in some cases to ignorance, in others to impertinence, and in others to a combination of both. This attitude is not monopolized by these few young North Carolinians, though they seem at present to be most strenuous in maintaining it. Because artificial and ephemeral circumstances have given these young men a standing as authorities in some quarters which is hardly justified by their qualifications as self-manifested, we have felt obliged, for their own good and for a correction of impressions injurious to the South which their utterances might create, to administer at every opportunity a fatter correction, in the hope that they may turn from the error of their way. We wish that all of them could possess your spirit.

SOUTHERN COKE PRODUCTION.

The advance made in the South in coke production since 1880 is shown in the following table:

	1880.	1902.
	Short tons.	Short tons.
Alabama.....	60,731	2,552,246
Georgia.....	38,041	82,064
Kentucky.....	4,250	126,879
Tennessee.....	130,609	560,006
Virginia.....	*23,340	1,124,572
West Virginia.....	135,755	2,516,565
Total.....	336,776	6,962,272
United States.....	3,338,300	25,401,730

*Figures for 1883.

The rate of increase of production in the twenty-two years has been wonderful, ranging from 4718 per cent. in Virginia and 4099 per cent. in Alabama to 328 per cent. in Tennessee and 115 per cent. in Georgia, the rate for the whole South having been 1659 per cent., while for the rest of the country it was 526 per cent. In 1882 the 395,776 tons of the South represented 11.7 per cent. of the total production of the country. By 1902 the Southern production, 6,962,272 tons, represented 27.4 per cent. of the total production.

LIGHT ON THE COTTON SITUATION.

The reason for the confident hope expressed by President Walmsley of the New England Cotton Manufacturers' Association that cotton-growing areas other than those in the South would soon be developed appears in the announcement by Fibre and Fabric that from cotton grown in the Boston Public Garden in 1901 Mr. William Nelson, instructor in the weaving department, has woven a piece of cloth at the Lowell Textile School. The cotton plants were started in the city greenhouse and transplanted to the public garden, where they were a novel and attractive addition to one of the most beautiful and thorough displays of landscape gardening in the world. Mr. Nelson, evidently convinced that utility should be added to aesthetics, persuaded the city gardener to give him about a pound of the staple, from which the piece of cloth fifteen inches square was made. Is it any wonder that President Walmsley has hopes, even though during the past season unfavorable weather did not permit such good results in cotton in the Boston Public Garden? Weather moods are mere matters of detail now that cotton grown in Massachusetts has been manufactured there. It is only a question of enlarging the cotton-growing area and protecting it from unfavorable climatic conditions by covering it with glass. Massachusetts needs not more than 1,200,000 bales a year for its mills. To raise that would require the covering of only 2,400,000 acres with glass. That would only be about 46 per cent. of the

total acreage in Massachusetts, and mud from the adjacent bogs or wet meadows would constitute a cheap and almost inexhaustible supply of fuel for the artificial heat in the greenhouses. There is life in the old land yet. New England cotton mills may yet defy Southern competition without the intervention of organizers of the United Textile Workers.

Nor will it be necessary even to have hard feelings against Southern cotton-growers receiving ten cents a pound for their crop. It is even possible that the blame for that will not be laid, after all, upon that terrible fellow Brown and his associates. Secretary Wilson is on the hot trail of at least one of the "gamblers" responsible for good prices for cotton. He has gone to Texas to investigate the boll-weevil, and at present writing sees no way of destroying him. May things change, though; may he nab him and convict him, and receive thereafter accurate reports of crop conditions, if he proposes to talk cotton at a moment vital for the growers.

PAPER FROM COTTONSEED HULLS.

Regarding current reports that it will manufacture paper from cottonseed hulls, the Cotton Oil & Fiber Co. of Norfolk, Va., writes the Manufacturers' Record as follows:

"We have plenty of room in our plant to install the necessary machinery. The additional capital to be invested we would not like to make public just at present. The character of the product will be the taking of the hulls direct from the oil-mill machinery and putting them through a process whereby they are ground up, from which we will receive two products, namely, hull bran and paper stock. The former we will sell for both foreign and domestic cattle-feeding, and the latter will go into paper-making. We have all of our machinery installed for the grinding, but as yet we are not quite ready to look into the matter of paper machinery, chiefly on account of not being able to obtain enough water in this vicinity at a profitable price to operate such a plant. However, we have leased two or three mills to work this fiber, which is for paper, and it has proven to be a success."

The Cotton Oil & Fiber Co. operates one of several plants in the South that take cotton and work it up into all its marketable forms. It operates the Norfolk Mills, which includes cottonseed and linseed mills, refinery, ginnery and yarn mills.

A \$50,000 COTTON-OIL PLANT.

An important addition to the cotton-oil manufacturing interests of Texas is approaching completion at Abilene. It is a modern plant for manufacturing the highest grades of cooking, salad and other edible oils, as well as miners' oil, and will have in connection a compound lard plant and soap works. The work of construction has progressed rapidly under the direction of H. J. J. Thiessen of Sherman, Texas, who was the architect for the Sherman refinery and several other similar plants in the South. The officers of the Abilene Cotton Oil Co. own the new enterprise, and a separate refining company, capitalized at \$50,000, has been organized to operate it. Production is expected to begin by December 1.

TO MAKE ROOFING MATERIALS.

Rapid progress is being made on the construction of the Barrett Manufacturing Co.'s branch roofing-materials factory at Ensley, Ala. Last June the company decided to build this branch, and about \$50,000 will be the cost of the buildings, land and machinery. The main building is a 100x150-foot structure, one story

high, of brick, with concrete foundations and a trussed roof. Its roof has a slope of one-half inch to the foot, and the numerous windows will be set up seven feet from the floor so that the rolls of roofing felt can be stacked against the walls while in course of manufacture. The plant adjoins the property of the Semet-Solvay Company, and from the latter's coke ovens the raw materials will be secured for the Barrett factory. All the machinery will be driven by electricity. By January 1 the company expects to have the new plant in operation. The Barrett Manufacturing Co. is now operating plants at Philadelphia, Cincinnati and other cities throughout the United States and is one of the best-known manufacturers of roofing materials in the country.

ANOTHER CEMENT PLANT.

In the Manufacturers' Record of October 29 correspondence from Atlanta, Ga., told of the completion of the \$1,000,000 Portland-cement plant at Rockmart, Ga., and an illustration of the large works was presented. Now another Portland-cement plant, costing a like amount, is to be built. It will be located at Selma, Ala., where Boston and Georgia capitalists have just paid \$40,000 for cement rights on a tract of land. This enterprise will be known as the Great Southern Portland Cement Co., organized with E. J. Hoag, president; W. R. Batchelder, treasurer; James E. Whitney, secretary; B. F. A. Saylor, first vice-president, and F. D. Sanborn, second vice-president. They are all of Boston, Mass., except Mr. Saylor, who is of Rome, Ga. It is stated that the plant will be designed for a daily output of from 2000 to 3000 barrels of Portland cement. The company has been chartered in Massachusetts with a capital of \$3,000,000.

ATLANTA BUILDINGS.

During the past ten months 2971 permits for buildings, representing expenditures of \$2,792,622, have been issued at Atlanta. This sum is more than \$900,000 greater than the total expenditures represented in the 2820 permits for the whole year of 1902. The permit figures show that the great advance in expenditures is not due to the erection of a few large buildings, and that a great many buildings are rising. In fact, it is stated that more buildings are being erected in Atlanta this year than ever before in the history of the city, and that they are all of a better quality than ever before. There is every reason why Atlanta, with its many advantages from a commercial standpoint and with its progressive spirit, should enjoy activity in the building line.

Its trade and industries are steadily increasing, and that means a steady demand for better office buildings and factories and for a great number of homes.

TO DEVELOP TEXAS TOBACCO.

General Passenger Agent T. J. Anderson of the Southern Pacific system has announced at Houston that a deal has been practically completed whereby a Chicago syndicate will purchase for about \$3,000,000 valuable tobacco lands lying principally along the Dallas extension of the Texas & New Orleans Railroad in the proved tobacco territory. It is the intention of the syndicate to begin the cultivation of much of the land immediately. This deal is one of the results of the investigations made by L. H. Sheller of the National Agricultural Department into the capabilities of East Texas soil for the production of a fine grade of cigar tobacco. In this investigation Mr. Sheller has been encouraged by the immigration department of the Southern Pacific system.

CEMENT MANUFACTURE—RAW MATERIAL.

By CHARLES CATLETT.

[Written for the Manufacturers' Record.]

There are a great many well-informed people who are satisfied that the liquidation in stocks, which has apparently largely run its course, is to be followed by a great or less industrial depression. It is to be hoped that this is not true, but if it is and the usual course in such matters is followed, this depression may not improbably reach its lowest point during the coming year. There will then commence a gradual restoration of confidence, prosperity and activity which will ultimately carry us to heights of development far beyond anything the past has known. If this business depression should materialize, the cement industry will suffer in common with all other industries. But if we examine the lines of development in the past as measured by any single product and its consumption, we will find that the year or two of depression following the years of greater activity show a falling off from the years of maximum consumption of but a small percentage of the total, and that the production and the consumption even in years of great depressions are enormous. This is because in a nation such as ours, with such wonderful physical and mental resources, depression does not mean retrogression and the beginning of decay. The nation is but marking time, that the stragglers may catch up, the wounded be restored to the ranks and the alignment perfected for another grand forward movement. It will be further noticed that there are plants in every industry which, either from the peculiar local surroundings or unusual skill exhibited in their control, continue at all times to show a fair profit. The conclusion is inevitable than an operation in any of the standard industries which is located under favorable auspices and well handled may be counted on to stand the shock of the most severe conditions which may arise. It is unfortunately true that capital, as a rule, is timid where it should be aggressive, and aggressive where it should be timid, because there are comparatively few people upon whom the present conditions, be they prosperous or the reverse, do not make a more active impression than the conditions of the future, which have to be seen through the imagination, even if supported by the strongest of reasons.

Assuming that we may expect such a depression as is anticipated by many, reason would point out that the time is peculiarly favorable for States, railroads and individuals to investigate their resources in regard to this great industry and to take active and aggressive steps with a view to inaugurating new enterprises. An individual who was seeking to invest in a cement proposition would not find six months too long in which to consider all of the broad and general facts as to present and future market conditions and transportation, to settle the general locality in which he would like to erect a plant, and in securing in that territory the very best that is to be had. Three or four months more need not be wastefully expended in perfecting plans, with a view to the more perfect organization and engineering arrangements. This would bring the actual commencement of construction to the time when it is not impossible that labor costs and supplies may reach a very low figure. With the plans then outlined for a large plant it is by no means necessary or desirable that such should be erected immediately. The ad-

vantages of a large plant are so strikingly illustrated in the way of economies that one who has means is apt to overlook the fact that these economies are only possible when the plant is run to its fullest capacity. If the market conditions are irregular, if the plant is improperly balanced, or if for any reason it cannot be run regularly and systematically at the maximum output, the marked economy disappears, and it is a serious question whether it is not equally profitable to meet the higher operating cost which comes from a smaller plant. In one case you pay interest and depreciation on a capacity that is not available, and in the other you pay an increased operating expense which can readily as you develop be reduced by increasing your capacity. It would probably take a year or more from the time the construction of the plant was undertaken before the same would be in full and satisfactory operation. It could, no doubt, be done in less time, but I am assuming that it is going to be done in the best and most economical way, giving, of course, due consideration to the interest charge during the time of construction. We would then have in the fall of 1905 and available for supplying the trade of 1906 a plant so located in matters of supplies and market as to be able to meet competition and to live at a profit in bad times. We would have a plant whose initial cost, which is to bear interest during all of its life, is relatively low, and one which in its construction has not been unduly hurried, but has received all of the care and attention which such work warrants, while the initial cost of the product will be based upon low labor charges and the management will be led to inaugurate and develop methods of economy which will for all time be a valuable asset of the company. I reaffirm, therefore, that sound reason makes this a peculiarly advantageous time for investigating our cement resources. It is fortunate that the general government, as has been previously mentioned, is undertaking the investigation of the subject at the present time. This investigation, however, must be general rather than specific in its scope, and aid may be furnished by an intelligent appreciation of the character of the raw material which is required as a basis of the industry.

Portland cement is essentially a combination of lime, silica and oxide of alumina, with small quantities of iron, magnesia, soda, potash, etc., as impurities. It is manufactured by intimately mixing carbonate of lime and clay (silicate of alumina) in exact proportions, grinding fine, heating to a temperature at which the mixture sinters, and then grinding this clinker to a very fine powder.

The carbonate of lime may be in the form of chalk, marl or limestone, and the clay and silica may be in the form of clay or shales and slates, which are but indurated clay. Neither the carbonate of lime nor the clay should carry more than 1 or 2 per cent. of magnesia nor of free sand, but with these limitations the variation may be very great and still, by proper blending, the materials may be made to produce a satisfactory cement. It is rare that either the clay or the carbonate of lime is absolutely pure. They are at times found combined together by nature in the proper proportion for a Portland cement mixture, in which case the material is apt to be an argillaceous or slatey limestone.

Such a rock would have in its raw state approximately the following composition:

	Per cent.
Calcium carbonate.....	75.00
Silica.....	15.10
Aluminum oxide.....	5.20
Iron oxide.....	2.00
Magnesium carbonate.....	1.70
Alkalies (soda and potash).....	1.00
	100.00

If the marl, chalk or clay are soft and wet, the usual practice would be to mix them in the wet way, with the addition of such further grinding as may be necessary, and with such modification in the mode of handling and burning as may be required to get rid of this large amount of moisture. Local conditions may make this method attractive and desirable, but the tendency is more largely to the use of material in the dry form, such as a pure or argillaceous limestone, with the addition of such shale, clay or limestone as may be necessary to bring it up to the proper composition. With so much grinding a large amount of power is required, and power means fuel consumption, while in the process of burning or sintering large quantities of fuel must also be used. Roughly speaking, for the manufacture of 100 parts of Portland cement there would be required 30 parts of clay, 120 parts of limestone, 50 parts of fuel. As the limestone is greater in amount than the sum of the other two, it is obvious that, things being equal, it is cheaper to bring the clay and the fuel to the limestone than it would be to carry the limestone to the clay and fuel, even if the last two were so located that they could be delivered at the point of assembly without transportation charges. It is also obvious that the clay or shale, on account of the relatively small proportion which is used, would stand a higher cost in the way of transportation per ton than would either the limestone or the fuel, so that if a satisfactory source of carbonate of lime is insured there is a larger radius within which it would be profitable to secure a suitable supply of the former material. As a broad and general proposition, therefore, the existence of a large supply of carbonate of lime in either of the forms mentioned possesses potentialities in the way of Portland cement manufacture. If this deposit is favorably located with reference to the existing lines of transportation and to a large and growing market, can be quarried cheaply, is uniform in character, soft and smooth in texture and does not carry more than 2 per cent. of magnesia, its attractiveness as a possible location for a Portland cement plant is increased. If an ample site and an abundance of water for the operation of the plant are available, its value is still further enhanced, and if further investigation discloses abundant supplies of coal of moderate price, carrying a large percentage of volatile matter, and within a reasonable distance a suitable supply of clay or slate, the conditions for the location of a profitable operation would seem to have been met.

In the section in which iron has been manufactured the available supplies of high-grade limestone have usually been quite fully exploited, while the problem of the cheapness with which large quantities of coal can be secured has also been solved. It not infrequently happens that in such sections there is a good deal of information about quarries attractively located which have developed too large a percentage of insolubles for fluxing purposes, but which may still prove of interest from a Portland cement standpoint. Such quarries are worth investigating. Deposits of pure limestone are apt to attract most attention. Still, as explained above, it is thoroughly possible for the limestone to contain naturally such a mixture of suitable ingredients as to approach closely a Portland cement mixture, with all of the advantages in the way of econ-

omy which would come from such a discovery. I should say, therefore, that in a district where the ordinary conditions of transportation and market would make the erection of a Portland cement plant attractive all of the large deposits of highly calcareous or limey rocks and

slates which are smooth and uniform in texture would demand consideration as to whether they might not be found to consist of a composition which would make them peculiarly well fitted for such operations.

Staunton, Va.

Some Instances of Misrepresentation from a Southern Point of View.

By THOMAS P. GRASTY.

[Written for the Manufacturers' Record.]

It is conservatively estimated that the South would have received \$100,000,000 less for this year's cotton crop had not the campaign of misrepresentation so actively pushed in order to break up W. P. Brown and his associates, while rectifying the price of cotton, ended in failure. Brown, appreciating the statistical position of cotton, undertook to secure for this staple a higher price, not only for what he bought and paid for in order to resell, but to give to the world a truer appreciation of the real value of cotton. But the spinners of Europe and America brought their combined influence through the press and through capitalistic circles to beat down the price, for the spinner is necessarily a bear. If Brown had not been a born leader of commanding ability and great resource the combined opposition and unsparing misrepresentation from the press of the country, and even from the United States Department of Agriculture, would have swamped him so effectually as to head off for years to come any other attempt to put the price of cotton at a point high enough to yield a fair margin of profit to the grower.

Although in this case the employment of misrepresentation failed to work, yet if the damage that has been done the South since the war by the perversion of facts could be figured out, the result would be simply appalling. For years and years after the South's unparalleled impoverishment there came down upon the land not merely a horde of "carpet-baggers," but an army of sensation-loving newspaper correspondents. The yellow journals of today would blush at stories that were welcomed by a certain type of editors all over the North. The supine South was mercilessly bastinadoed. The pen proved a crueler, if not a mightier weapon than the sword. There are thousands of good men and true still alive who suffered more keenly from the slanders that they and others were subjected to than from the wreck and ruin of defeat. They were making a struggle for the re-establishment of order, the maintenance of decency, the protection of their homes and loved ones—a struggle that would have met with the plaudits of right-thinking men all over the North but for the sensational newspaper correspondents of that period. Those printed perversions of facts so affected public sentiment at the North as to perpetuate a semi-barbaric sort of rule—it would be a misnomer to call it government under which oppression and injustice had a free hand. The authors of many of those slanders on Southern manhood and womanhood were the spoilsman who were rioting on the substance of those who were making a heroic effort to rehabilitate their country. And so having suffered so sorely from misrepresentation, we ought to be scrupulous in its avoidance where others are the victims.

"Half the world doesn't know how the other half lives." This adage, when originally uttered, probably applied to social conditions only. As the world has widened and affairs, commercial, in-

before the Standard Oil Co. had raised the price of its product, Mr. Rockefeller took one of his Cleveland friends into his confidence and told him that 'the personal comfort religion has been to me has been such that sometimes I feel that I would like to go upon the lecture platform and tell the people about it.' Now that the Oil King's piety has been rewarded by an \$11,000,000 increase in his income, it will probably be impossible for him to keep off the lecture platform. It may not be impious to suggest, however, that the 'personal comforts' which his religion brings to him tend to shake the faith of a great many people whose piety is not fortified by Standard Oil stocks."

Now, the Standard Oil Co. is a buyer of crude oil to be refined, and the consumption of oil is running so far ahead of the production, as recently shown in an article in the Manufacturers' Record, that this company has been steadily for months bidding higher prices for crude oil, hoping thereby to stimulate its production by the opening of new territory and the boring of new wells. As the crude oil which the company buys has thus been so heavily advanced in price to the great profit of thousands of oil producers, there has necessarily and inevitably come an advance in refined oil.

A few years ago it might have been supposed that if the so-called Beef Trust should mark up the price of cattle in order to stimulate the raising of cattle, foreseeing a coming shortage, such an act would have been heralded everywhere not only as a liberal and beneficial policy to the farmers of the country, but as an act in the ultimate interest of beef consumers in town and city, and if the price of beef were raised to correspond with the price paid for cattle it would have been said that there existed no ground for complaint. But the facts are that several years ago the price of beef did advance, and the farmers grew prosperous under the higher prices received for their live-stock; but ignoring every single fact which showed the enormous decrease in the supply of live-stock and the equally enormous increase in the consumption of beef, the papers were for months so filled with denunciation of the so-called Beef Trust that this became the predominant topic of discussion everywhere. That nine-tenths of the stories published were absolutely false, or were based upon a total misstatement of facts open to every investigator, made no difference. Here was a sensation, and here was an opportunity to array the masses against corporations and capital, and so the opportunity was used to the utmost power of the fertile imaginations of writers who knew nothing and cared less about the real truth of the matter.

The Sun's frivolous comments in the article mentioned, intended, perhaps, to be funny, on Mr. Rockefeller's religion invade a field that I shall not trespass in further than to say that I wish, for the Sun's sake, it has not seemed to be casting slurs on the religion of a man whose earnestness of purpose has been so abundantly demonstrated.

If at least three-fourths of the people in the world who know how to read did not form their opinions about men, matters and things from what they read in newspapers it might not make such a mighty difference whether what is printed is merely an impression or a fact. The dissemination of "vain imaginings" by Southern newspapers has always seemed to me to be peculiarly culpable, because out of harmony with that recognition of responsibility for one's utterances which has been such a conservative force in upholding some of our most precious traditions. The world never produced a people

with more punctilious regard for individual rights and feelings than the scrupulously honorable men who were the ruling element at the South prior to the great upheaval. Under the civilization of the period when the South was pre-eminent in statesmanship, moral influence and social distinction the man who cheated his neighbor to the extent of a picayune had to move away from that community; the man who filched from his neighbor his good name was held to an accountability where no quibbling was allowed. The golden rule was alike the code of honor among men of the world and the standard of Christian consistency.

Another reason why we of the South should studiously avoid any semblance of misrepresentation arises from the business situation. Incidents have come out during the investigation of a certain abortive industrial combine that are liable to create prejudice. The discovery of rottenness in the organization of one combination may have a tendency to provoke from the "impressionist" school of critics a sweeping condemnation of all large corporations, especially those that were made up through consolidating smaller ones. Indeed, I have already seen indications of a tendency to do injustice to organizations that deserve public support. There is going to be a great winnowing—a separation of the wheat from the tares. Those concerns that have merit will come out unsheathed unless public sentiment be so wrought upon as to lose its faculty of discrimination. If that should occur, i. e., if public sentiment should lose its head, then we would have troublous times, such as might have befallen the people of a community who should disregard the Master's counsel concerning "the wheat and the tares." As the process of separation progresses a great deal of useful light will be thrown on the question of doing business through large organizations. Public attention has been attracted to this question by what may be set down as one extreme, that deplorable fiasco and fraud upon the public known as the "Shipbuilding Combine." The outcome will be that the public mind will gain a clearer comprehension of what is represented by the other extreme, which is possibly best exemplified in that gigantic engine of commercial expansion, the Standard Oil Co. The people of the country may, under the rays of the searchlight of investigation, find out enough to become convinced that Mr. J. P. Morgan is one of America's most useful citizens—a conserver and builder up, and not a wrecker—and that the denunciations so freely heaped upon him for his alleged connection with the Shipbuilding Combine are as unjustified as the criticisms against Brown, against the Standard Oil Co., and against many other corporations. Because the International Marine Co., organized by Morgan, has not yet proved as successful as had been expected, it has been bitterly assailed. English papers have gloried in doing this, and they had the motive of self-interest, for they were seeking to retard the development of an American mercantile marine; but that American papers should have followed their lead has been most astonishing. This point was lately very strongly emphasized by Hambleton & Co., a leading banking house of Baltimore, in their weekly circular-letter as most unpatriotic. But here was another chance to make a sensation, and so it has been utilized.

And so the story of misrepresentation, of denunciation, goes on, whether as the case of Brown, who has added millions of dollars to the profit of millions of cotton producers throughout the South; whether it is the case of the Standard Oil Co. steadily advancing the price paid to pro-

ducers of crude oil because of the growing shortage in the production and supply, or whether it be in the misrepresentation of educational, social or race problems in the South. It is really time for the people to think soberly and seriously as to how far this unfortunate tendency may eventually lead us.

THE TEXAS OIL FIELDS.

Center of Interest Now on Batson's Prairie.

[Special Cor. Manufacturers' Record.]
Beaumont, Texas, November 7.

Batson's Prairie now has the center of the stage. One week ago today the well of the Paraffine Oil Co. came in, flowing, and in the interim every operator of consequence in the Texas fields has visited the scene of the latest strike. The J. M. Guffey Petroleum Co. gave an exhibition of quick action that has seldom, if ever, been equaled in this section. News of the bringing in of the well reached the local offices on Saturday. It was confirmed Sunday, and that night a derrick and rig, which were on a location twelve miles away, were moved to the Guffey lease adjoining the property on which the Paraffine Company's well is located. Early Monday morning the Guffey workmen had things going, and the second well to be drilled on Batson's Prairie is now down several hundred feet. Vice-President W. L. Mellon of the Guffey Company and his assistant, George L. Craig, came down from Pittsburg immediately upon receiving news of the strike and have been over the ground. The Guffey Company already has a pipeline from Saratoga to Sour Lake and thence to Beaumont and Port Arthur. As Saratoga is less than eight miles east and a little north of Batson's Prairie, the extension of the Guffey line will be easily accomplished if results obtained in the wells justify it. A crew of surveyors is already laying out a route for the line.

President J. S. Cullinan of the Texas Company was in Chicago when the news of the Batson's Prairie well was received. His representatives visited the well, and he followed them, going directly to the Prairie upon his arrival in Beaumont. It is understood that the Texas Company has secured property close in to the well and will begin operations very shortly. As this company is now building a pipeline to Saratoga, it will also be in position to extend its line to the Prairie if the production of the wells warrants such an expenditure.

Among those who are large holders of land in the vicinity of the new well are Harry Masterson of Houston, Texas, who controls 2000 acres; John McShane, who probably has as much; W. E. Brice, who has a piece abutting the tract on which the well is located, and the English interests, represented by Carl K. MacFadden.

Mr. MacFadden was the first to bring samples of the oil to Beaumont for tests. The oil was treated at both the Security and Guffey refineries. The test for gravity showed it to be 23.6 Baume. It was found to be similar to the Spindle Top and Sour Lake oils, with a smaller percentage of sulphur than is found in either. Its base is asphaltic, and not paraffine, as at first reported in the press dispatches.

The Paraffine Company's well is 695 feet deep, and the drillers say that they encountered no rock in it, and that the oil was found in a loose sand. A strainer was used and the well came in without bailing. It was reduced at the top from six to two inches, and although it has not been permitted to flow for any length of time, it makes a very satisfactory exhibition for a half-minute, this being as long

as the drillers will permit it to remain open. Under the circumstances it is impossible to judge of the productiveness of the well or of the sand which it has penetrated. At Sour Lake similar wells are found at about the same depth, and a little deeper a cap rock is encountered. Several of the deeper wells at Sour Lake showed a production of more than 15,000 barrels a day for a limited period.

The new well was the wildest kind of a wildcat. It was located by W. L. Douglass, a Beaumont lawyer, without experience in the oil business or anything to justify the location except an abiding faith in his own judgment. His friends in Beaumont who are associated with him in the venture put up \$600 apiece to back his judgment, little dreaming that they would realize a big profit on their investment. As much as \$6000 was offered two days after the strike for one-half of one of the \$600 interests. Among those who own stock in the company are Judge Douglass, R. A. Greer, John N. Gilbert, Capt. William Wiess, Charles A. Hageman, George W. Kidd, E. C. Wiess and Perry Wiess. A meeting of directors was held on November 2 and \$75,000 were subscribed with which to purchase additional property in the neighborhood of the well and to prosecute further development work. The company now owns upwards of 200 acres at the well site.

The strike has not affected the price of Beaumont crude. The Texas Company has posted an advance of five cents a barrel on Beaumont and Sour Lake credit balances. The prices now bulletined by this company are forty-five cents for Beaumont and thirty cents for Sour Lake oil.

A decision of great importance to the Jennings (La.) field was rendered by the Supreme Court of the State of Louisiana on November 3. The case in point was a suit against the title to the 184 acres in the Jennings field, known as the Arnaudet tract, and comprising a portion of the most valuable proven territory in the field. Six wells are located on the property, five of them being producers. The land is held by the Jennings-Heywood syndicate, which has stubbornly contested every title suit brought against its holdings and with uniform success. The decision is in favor of the syndicate and gives the owners a clear title to the property.

HOLLAND S. REAVIS.

KEEPING PRICES QUIET.

Reflections of Conditions in the Birmingham Iron Market.

[Special Cor. Manufacturers' Record.]
Birmingham, Ala., November 9.

The iron market is yet more or less unsettled, and the difficulty of reporting it with accuracy arises from the fact that in frequent cases the terms of sale are either suppressed or are distorted as they are given currency. The prices the past week range from \$9.50 to \$10.25 for No. 2 foundry, and it is a hard matter to determine which price was most in favor. The generally accepted opinion is that more sales were made around \$10 than at any other price obtained. There is a great disinclination to make public the prices that are current, and it is a hard matter to satisfy yourself after you have obtained information that it is reliable.

All the sellers are inclined as much as they can to keeping prices secret. Under such circumstances it is safe to infer that more iron is going at inside prices than sellers are willing to report. Information comes from other points of sales made in this market that close inquiry fails to confirm. If there have been sales of the magnitude reported, the sellers are withholding them from publicity here. Inquiry at sources that would probably

have information concerning them, if made, were met in some cases by absolute denial or absolute refusal to say yes or no concerning them, and one is left to his own inferences as to their correctness.

Your correspondent has seen offers from the central West declined that were on the basis of \$10 for No. 1 foundry and No. 1 soft, and \$9.50 for No. 2 soft and No. 2 foundry. But the buyer may have made his offer to an interest that had no room for the order. A few interests are so situated that for the remainder of this year they are indifferent sellers except at inducing prices. There are others willing to meet buyers at the prevailing market, even though they do so with reluctance, but this obtains only when the orders are for prompt and nearby shipments. When you come to delivery for 1904 it is like drawing eye teeth to secure prices on the basis of present values. The inquiry for that delivery is very good up to June, but the inclination to sell for that delivery on the present basis of values is almost nil.

The report of sales (originating in other markets) to the export trade are without foundation in fact, according to the statements of sellers. It would hardly be probable that they could be made and not be leaked here. A leading interest here received an offer at the same price that rumor stated was the current quotation made for export, but they declined it. No such sale would be made without first securing the ocean room, and the records show no such contract. But we are nearing every day not only the probability, but the certainty of the renewal of the trade. There was one bid on Saturday from Middlesboro, England, based on 45 shillings for No. 3 foundry iron. It is so near to what can be worked that one is justified in anticipating that the foreign business is in sight.

The reports made to the various interests by their sales agents are all unanimous in stating that the supplies in the hands of consumers are at a low ebb, and that free buying cannot be postponed except for a short period. Taking \$9.50 as the price of No. 2 foundry iron, No. 3 foundry iron, which is now the base grade, would net the furnaces \$8.75. There are very few furnaces in commission whose cost sheets will show no loss at that price. Further reduction will be strenuously resisted.

The steel mill at Ensley is running at a capacity greater than ever before in its history. Hereafter the mill will be an important factor to deal with in the supply of steel rails. The shortage in the car supply is being accentuated every day. Not only are the shippers of iron complaining, but the coal interests have joined the ranks with even louder lamentations over the lack of cars. One large iron interest last week gave one order for 400 cars. They obtained part only of them. All kinds of cars are in demand, and limited shippers whose business depends upon prompt delivery are greatly handicapped by the situation.

The price of coal is about what was reported last week—ranging from \$1.20 to \$1.65. Coke is in more plentiful supply than in previous seasons, and for foundry coke the price varies from \$3.50 to \$3.75, while furnace coke runs from \$2.50 to \$3, depending upon surrounding circumstances. There is more or less development going on that is greatly encouraging to the parties interested, the outcome of which will be reported when definite results have been obtained.

While affairs have lost some of the rush that characterized them awhile back, there is nothing in the situation that justifies a pessimistic view of the future.

J. M. K.

NATIONAL IMPORT OF THE MISSISSIPPI LEVEE CONVENTION.

[Louisville Courier Journal.]

While the name of the association includes the improvement of the river for navigation, the popular name of "levee convention" shows that its principal efforts are directed to federal control of the levees. It is desired that the federal government take control of the system of levees and continue it until all the levees from Port Eads to Cairo are of one uniform standard. It is not expected that this can be done in one year, but if Congress be committed to it the work may proceed upon an established system and be finished in four, five or six years.

There is no room for doubt that the protection of the alluvial lands of the Mississippi valley by the federal government has been advanced in public favor by the commitment of the government to the reclamation of the arid lands of the West by a general system of irrigation. It is argued with much plausibility that if the federal government is under obligations to supply water where it is wanting, it is equally its duty to protect other lands from an excess of it from the overflow of a navigable stream. The President, in his letter to the convention, connects the two projects, and evidently regards the principles underlying them as identical. The presence of Secretary Wilson of the Department of Agriculture at the convention may be taken as still further committing the executive branch of the government to the general purposes of the Levee Association. But it is to Congress that resort must be had for the money needed.

OF VITAL INTEREST.

[St. Louis Republic.]

St. Louis is vitally interested in the Interstate Mississippi River Improvement and Levee Association Convention, now in session at New Orleans. This city's interests can be as greatly conserved by adequate levee protection for the Mississippi valley as the low-lying lands which reap the direct benefit. The millions in losses attending a great flood are partly borne by the commercial and financial institutions of this city, with which a great area of the territory affected is commercially associated.

One of the immediate purposes of the convention is to solicit congressional aid. In connection with this plan the large agricultural, the industrial and the railroad interests north of Cairo should not be overlooked. The pressing nature of the local need was demonstrated by the overflow of last June. It is to be expected that East St. Louis, the adjacent manufacturing investments, the railroads and the American bottoms farming population will do their part toward building permanent and secure dikes. But that they receive a due proportion of any national aid given is eminently right and proper. Interests contiguous to St. Louis have as much claim to national assistance as have the plantations of the South. Any far-sighted study of river improvement must include the deep-waterway idea. That must come eventually. High, strong dikes, which narrow the channel and tend to produce a deep, swift current, are essential to a deep waterway; in fact, sufficiently solid levees are the first requisite.

FOR UNITED EFFORT.

[Wheeling Register.]

As has already been pointed out by the Register, the improvements asked by the lower Mississippi valley will come the sooner if made one with the improvement asked for the Ohio. An all-year-round

nine-foot stage in the Ohio, which would immensely increase the river tonnage from Pittsburgh throughout the Ohio valley, would of its own weight force the improvements asked for the Mississippi; in fact, the latter, vast and costly as they are, will come in no other way than through the united efforts of the Ohio and Mississippi valleys, which are inseparably connected and are part and parcel of the grand scheme of navigation at the other end of which is the Isthmian interoceanic canal, which will directly connect by water the vast industries of the Ohio and Mississippi valleys with the trade of the Pacific coast and the world at large.

MUCH FOR MEMPHIS.

[Memphis Sentinel.]

The levee convention at New Orleans has fulfilled the largest expectations both as to the number and character of the men in attendance. The convention hall was filled at the opening hour with 1500 representative delegates from all parts of the great valley, and addresses were made by some of the most influential public men in the nation. A telegram was read from the President of the United States warmly commanding the objects of the convention and practically pledging his support to the legislation which will be needed to carry out those objects. Every class and interest and every city of consequence in the States bordering on the mighty river was represented by strong men. It is such a gathering as makes a tremendous object-lesson in itself, and one whose members working together as one man can move mountains, Congress or anything else against which it directs its energies.

The convention is so strong that the senators and representatives in Congress from the States of the Mississippi valley will be compelled to carry out its commands, and those senators and representatives are strong enough to secure any legislation which they demand. The result will be to set at rest any question as to the completion of the levees by the national government and the placing of the entire system under national control.

NOT A LOCAL PROBLEM.

[Mobile Item.]

Mr. Edmonds, in his address before the Mississippi River Convention, struck the nail squarely on the head in saying "this is, indeed, a national, not a State problem." And for this very reason the general government should build, own and maintain the levees along the Mississippi river. It is an unjust burden upon the Southern States washed by the Mississippi, since the waters that sweep away private and State levees, destroy millions of dollars' worth of property and render useless millions of acres of land come from a number of States in no way touched by the watercourse. The millions of acres to be reclaimed by a perfect levee system will redound to the benefit of the entire country, and if there is an improvement in which everybody is directly interested, it is this.

LEVEES AND IRRIGATION.

[Arkansas Gazette.]

The Mississippi is a national affair. President Roosevelt implies in his letter that he favors levees for the lowlands along the great river exactly as he has taken a keen interest in irrigation in the arid regions. But we believe that levees are works of greater utility than irrigation ditches. After water has been supplied to the arid plains of the West the

danger of alkali rising to the surface and ruining the soil must be contended against by tile drainage and other devices. But when the floods are kept off the alluvial lands of the Mississippi the soil asks nothing more. At once such land becomes the finest farming acreage in the world. It continues year after year to grow cotton, corn, sugar-cane, rice and other crops with a minimum of labor and without fertilization by artificial means. Some persons might look upon levee taxes as a disadvantage peculiar to the alluvial lands. They are peculiar to such lands under that name, but it has been estimated that the money spent by the farmers of Georgia to spread fertilizers upon their red fields amounts to an annual tax of several dollars an acre.

THE COUNTRY CONCERNED.

[Birmingham News.]

The whole nation is concerned when the Mississippi and tributaries leap their banks and destroy millions of property and ruin thousands upon thousands of acres of growing crops. A flood is not a State question. The owners of the plantations are not the only sufferers, but the people at large, cut off from a prolific source of supply of necessities, share with them the loss.

It is pleasing to observe that the convention was widely attended, and that the gathering was truly representative. The practical view taken of the questions presented was especially gratifying.

Congress cannot fail to be impressed as a result of these deliberations, and unless it fails in its duty will accede to the recommendation of the convention not only in appropriating the amounts found necessary by the Mississippi river commission, but also for the completion of a deep waterway from the Great Lakes to the Gulf of Mexico.

THE RAILROADS' PART.

[Indianapolis News.]

The main purpose of the association is to secure national control for the Mississippi river levees. This, of course, means their more efficient construction and maintenance and the prevention of the annual overflow. This would mean the deepening of the channel and navigation all the year. This would mean competition with the railroads. Yet these are interested in this association and are encouraging its object. As on the face of it seems like working against their own interests, the railroads give as a reason that with the security of the levees once assured there would be reclaimed about 30,000 square miles, or 20,000,000 acres, of rich alluvial land, admirably adapted to the cultivation of corn, cotton and sugar-cane. There is already a lack of cotton to keep all of our mills in operation, and the promise of this project in this particular lends it attraction and makes plausible the statement of the officers of the association that the strongest assurances of support are coming alike from North and South, East and West. Experience, it is said, has demonstrated that the levees constructed by the United States government do not break, and it is argued, with the whole stream in charge of the government, there would be constant safety and a stage of water to be counted on the year round.

RIVER IMPROVERS TOGETHER.

[Pittsburg Chronicle-Telegraph.]

Great satisfaction should be felt throughout the Ohio valley over the action of the New Orleans convention. If there was any ground for the belief that an

effort would be made to divorce the interests of the Ohio and Mississippi valleys in the matter of river improvement, such intention was very neatly frustrated by the delegates from the Ohio valley. The amendment offered by George H. Anderson of the Pittsburg Chamber of Commerce set forth the convention's opinion that the system of river improvements in the valley of the Mississippi from its headwaters to the Gulf, and in the valley of the Ohio and other tributaries, is a most commendable enterprise, and should be prosecuted to completion without unnecessary delay. This amendment was unanimously accepted by the committee on resolutions. Thus the importance of the Ohio valley improvements was acknowledged by their being linked together with those of the Mississippi valley, and an unbiased consideration of the facts will show that this was only just. It would have been most unwise for the New Orleans convention to speak for the Mississippi valley only, and to leave the Ohio valley to look out for itself. The traffic taken by the Ohio into the Mississippi is certainly of sufficient importance to make it obligatory upon the advocates of the improvement of the latter to wish for the improvement of its most important tributary. Ohio and Mississippi river improvers should stand together, and it is gratifying to learn that they have decided so to stand.

A POLICY TO BE PREACHED.

[New Orleans Picayune.]

That it is therefore the duty of the national government, which has sole and absolute control of all interstate rivers, to maintain the entire work of protecting the lowlands of the various States from the ravages of this mighty continental waterway is fully established, but it is recognized that the people of the United States require time to be educated up to the importance of the proposed measure.

Under these conditions it is desired that every proper influence be brought to bear upon Congress to secure liberal appropriations to be expended for river improvement under the wise and able direction of the Mississippi river commission, and that in the meantime the work of educating the people of the United States in the nature and national importance of the work of protection be systematically carried on. This is wise policy, and in the end will accomplish what is desired.

The convention most wisely indorsed the construction of a navigable waterway from the great Northern lakes to the Mississippi river, and recognized the great enterprise of the Chicago drainage canal, which already pours the waters of Lake Michigan into the Mississippi by way of the Illinois river.

BASIS OF NATIONAL WEALTH.

[New Orleans Times-Democrat.]

The entire country at last realizes the value and necessity of levees and the obligations of the federal government in the matter. The protection of the land from overflow affects not only the riparian owners, but will add to the cultivable lands of the Union an area as fertile as the delta of the Nile and as large as the State of Ohio. Every dollar expended in this work will, as similar expenditures have done in Holland, return tenfold to the whole country in the wealth it produces and the prosperity it begets. Our demands have been received favorably by the President, by the press, by most of the governors and the most influential men in the country. Even the railroads, which were formerly

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unfriendly to any plan that aimed to improve the navigation of the Mississippi, have promised their cordial assistance and support. The irrigation argument presented in the convention—the recognition by Congress of its responsibility in this matter to the arid States of the far West—leaves no doubt of the position of Congress in regard to levees and the action it will take in regard to them. The convention has done its work well. If the friends of levees will but keep it up and press its demands there need be no fear that Congress will not see and assume its responsibility at once.

FOUR STATES IMMIGRATION.

Meeting at New Orleans of a Practical Organization.

(By wire to the Manufacturers' Record.)

New Orleans, La., November 1.

The Four States Immigration League closed here yesterday a two days' meeting which was filled with features of interest and significance. This organization, fathered and fostered by the vigorous Progressive Union of New Orleans, has as its membership the most active commercial bodies of Louisiana, Texas, Mississippi and Alabama. Its first meeting occurred in this city less than a year, and with a constantly increasing membership and concentration of effort in the direction of developing the resources of the States named, it has come to be a forceful factor in this field of endeavor.

At the meeting just held there was a large and very representative attendance of delegates, comprising leading bankers, merchants, capitalists, immigration agents of railroads, farmers, dairymen, fruit and truck growers and secretaries of commercial organizations. The range of subjects discussed included methods of inducing immigration, the character and adaptability of soils, the opportunities that exist for profitable agricultural operations, commercial undertakings and industrial enterprises, and a large part of the time was devoted to talks and papers on what had been done on the farm lands of this section by the speakers and writers.

One of the important addresses of the meeting was delivered by Capt. J. F. Merry, assistant general passenger agent of the Illinois Central, who made a special trip from Iowa to be present. He laid particular stress on the importance and profit of making Southern farm conditions and surroundings more attractive. The value of personal work in inducing immigration was pointed out, and the urgent need of advertising in papers that Northern farmers read was strongly insisted on.

A hearty tribute was paid to the lead taken by the Manufacturers' Record in Southern development work, and recognition was given to the position the Southern Farm Magazine occupies as an exponent of Southern agricultural conditions.

ALBERT PHENIS.

GULF-PORT COMMERCE.

Importance of Galveston in the Grain Trade.

In a letter to the Manufacturers' Record Mr. J. H. Johnston, secretary of the Galveston Chamber of Commerce, writes:

"I read with a great deal of interest the article which appeared in your last week's issue under the head of 'Natural Flow of Commerce.' I am convinced that the New York Sun takes the sensible view of this proposition, and that it certainly will not pay the State of New York to spend \$100,000,000 to enlarge the Erie canal for the purpose of endeavoring to attract via that route freight which is produced in the southwestern portion of the United States.

"By every law of commerce the terri-

tory lying in the Mississippi valley and west thereof belongs to Gulf ports. From the great wheat fields of Kansas, Oklahoma Territory and Texas it is less than one-half the distance to Galveston than it is to New York and other Atlantic ports. The railroads have been placed with this condition in mind; they control their equipment themselves when the grain is hauled to this port, and are thus enabled to reload it with Texas yellow-pine lumber and get it back to the grain fields in the shortest possible space of time. In this connection I would respectfully call your attention to the fact that, in the very nature of things, Galveston is going to be hereafter the most important grain-exporting port in the United States. This is true because, as the country settles up, the Mississippi valley will use up or consume a great portion of the grain which is produced in that territory, whereas for years to come the sparsely-settled territories of Nebraska, Kansas, Oklahoma Territory and Texas will produce much more than can be consumed at home. In proof of this statement I beg to quote the export figures via Galveston and New Orleans for the months of July, August, September and October of this year. During the months named Galveston has exported of wheat 9,360,291 bushels; corn, 461,957 bushels, against New Orleans, wheat, 3,102,833 bushels; corn, 39,427 bushels. You will therefore see that Galveston as a port is rapidly assuming that position which it is destined to maintain in the matter of grain exportation. This is not due to any artificial advantages in the way of low freight rates, because, considering the distance hauled, our freight rates are higher than those applying to any other port, but because we are the nearest outlet from the great grain fields of the southwestern portion of the United States."

OIL IN METALLURGY.

Its Fuel Adaptation in Divers Operations.

Metalurgical operations naturally stand first for consideration among the miscellaneous applications of oil fuel, as they offer every inducement for the satisfactory working of a medium possessing such valuable heat-generating properties. As is well known, of the heat produced in furnaces for melting metal the proportion imparted to and usefully employed in reducing the material is comparatively small and disappointing. To remedy the excessive consumption of fuel and economize in the absorption of heat by unremunerative construction many ingenious arrangements of furnace have been devised, but although the more wasteful features have been eliminated and unceasing efforts have been made to secure the greatest economy, the losses inherent to furnaces designed for the utilization of solid fuel remain.

With oil fuel the conditions of working are so modified that many of the disadvantages and losses in coal-furnace heating are no longer present, and an economy results which guarantees to the liquid a value satisfactory as compared to its solid rivals. The price of hard or furnace coke has reached a very high figure in many places, and, in fact, in all those parts of the country remote from the coal fields, whereas the cost of fuel oil is at its lowest in many of these localities. Apart, however, from any direct pecuniary advantage due to cost of fuel required for similar work, the prospect of greatly increasing the output by substituting oil fuel for coal or coke in many industrial operations offers a substantial inducement. This increased production is secured by the easy and exact regulation obtainable, the uniformity of the heat generated and the

concentration of the operative's attention and labor to the work in hand.

The possibility of obtaining a satisfactory liquid fuel in bulk at a price commensurate with its heating value has naturally led to many improvements in the methods of its utilization for industrial purposes. For steam-raising more ingenuity has been devoted to the design of "burners," perhaps, than to the construction of the furnaces, although the latter is as important as the former. For heating and melting metals and for various manufacturing operations attention has necessarily been concentrated more on the furnaces required, and some very satisfactory arrangements have been evolved and put into operation. Accepting the heavy Texas oil as the fuel to be used, this possesses a calorific value of about 19,500 B. T. U. per pound, and, owing to its character, is best used with the "spray" method of burning, air being employed as the disintegrating medium when an intense and concentrated heat is required, and steam where a soft and more diffused high temperature is desirable.

For scrap welding or bloom heating oil fuel is well adapted. The melting and reducing of metals to which oil fuel also has been largely applied possess peculiarly promising features, and the results obtained are convincing of its efficiency for the purpose. In brass foundries a considerable item of expense exists in the provision of the crucibles or "pots" for holding the metal, none of which can well be made available for more than thirty-five heats, whereas if oil fuel is taken advantage of the metal can be reduced direct in bulk without the employment of crucibles. Where large castings are required and one peculiar mixture of metal is desired this is of great importance.—A. M. Bell in *Cassier's Magazine* for November.

Big Decrease in Pig-Iron Production.

The Iron Age of November 12 says:

"Our monthly blast-furnace statistics indicate clearly how rapidly the manufacturers of pig-iron are adjusting themselves to changed conditions. On October 1 the capacity of the anthracite and coke furnaces was 353,142 tons. On November 1 it had declined to 273,715 tons per week. The greater part of this decline of about 80,000 tons per week is due to the Central West, under the leadership of the United States Steel Corporation. The furnaces of the Central West dropped from 216,249 tons per week on October 1 to 144,538 tons per week on November 1. The Eastern furnaces, without any definite associated action, show a natural drop from 52,237 tons per week on September 1 to 47,648 tons on October 1 and 38,486 tons per week on November 1. The South, however, is driving ahead at a pretty full rate, and is crowding the markets with offers considerably below the prices of competing districts.

"As bearing on the current demand for iron, it may be noted that stocks in the hands of merchant furnaces show an increase in October of 89,000 tons, which indicates that the actual decline in output in October was not great enough. As the cutting down of output really only began to tell toward the end of the month, it is reasonable to expect that we are now nearer a balance with the lessened market more effective. It must be taken into consideration, too, in gauging the effect of furnace stocks, that the supplies carried in consumers' yards were never so low."

The Wheland Machine Works of Chattanooga, Tenn., has begun work upon its big foundry, which will be a one-story brick structure 110x200 feet. In addition, there will be a new blacksmith shop and a power-house for generating electricity, with which the works will hereafter be operated.

RAILROADS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

AFTER COAL AND TIMBER.

Kelley's Creek & Northwestern Railway Starts Development.

The Kelley's Creek & Northwestern Railway Co., which was chartered last May to build a railroad from Cedar Grove, W. Va., up the valley of Kelley's creek and thence northwest through Sutton, is reported to have completed about five miles of its main line, which has been opened between Cedar Grove and Ward. The object of the road is to develop coal fields.

It is further reported that the company has purchased twenty-five new coal cars, which will be received shortly; also a passenger car, and it has contracted for 500 coal cars, to be delivered within the next six months. The Kelley's Creek Colliery Co. is said to be developing about 8000 acres of valuable coal land tributary to the railroad, which has completed its permanent location nearly as far as Blue creek.

A new town, with fifty-five houses, is also reported to have started up on the line, and two extensive saw-mill plants have been cutting lumber in that region for three months. Not much more grading will be done on the road this fall. Construction is to be pushed in the spring. Those interested are F. M. Staunton, J. W. Dawson, George E. Price and S. L. Flournoy of Charleston, W. Va., and Charles Willis Ward of New York city.

MORGANTOWN & KINGWOOD.

Plan to Extend to Rowlesburg—Another Line to Fairmont.

The Morgantown & Kingwood Railroad, which is building southeast from Morgantown, W. Va., has lately built an extension to Bretz, a new town two miles beyond Masontown, in the Decker's Creek valley, there being a large coal plant under construction at that point. This information is furnished to the Manufacturers' Record by Chief Engineer A. Spates Brady, who also says that surveys have been completed for continuing the line from Bretz via Kingwood to Rowlesburg, on the Baltimore & Ohio Railroad, and that this additional construction is expected to be completed within a year.

In this connection it is interesting to note that the Morgantown & Pittsburg Railroad of Morgantown has been chartered to build its line southwest from Morgantown to Fairmont, about fifteen miles, and that Davis Elkins, president of the Morgantown & Kingwood Railroad, is one of the incorporators, the others being Joseph H. McDermott, Clarence B. Dille and Thomas R. Dille of Morgantown, and S. W. Swisher of Fairmont.

CHANGE OF OWNERSHIP.

Tennessee Interurban Soon to Start Construction.

It is reported from Nashville, Tenn., that C. W. Ruth and Frank Haskell, promoters of the Tennessee Interurban Electric Railway Co., which proposes to build lines from Nashville to Gallatin and Columbia, Tenn., have disposed of their interests to C. W. Pope and T. E. Perry, Jr., of Pittsburgh, Pa., and it is further reported that the company has been reorganized by the election of Mr. Perry as president; H. A. Gross, vice-president, secretary and treasurer, and J. E. Kent, chief counsel, those gentlemen also being of Pittsburgh.

Mr. Ruth is quoted as saying that the

new owners have ample capital to carry out the plans of the company. It is also stated that the capital stock will be increased and that construction will begin as soon as details can be arranged. It is said that J. H. Connor, who was formerly associated with Messrs. Ruth and Haskell, was instrumental in carrying out the deal.

Poor's Manual of Railroads.

The introduction to Poor's Manual for 1903, which covers statistics of railroads in the United States up to the end of the year 1902, has just been issued. It shows that the length of railroads completed on December 31 last was 203,131 miles, the net increase being 4364 miles for the year. Reports have been received from railroad companies covering a total of 199,684 miles, showing capital stock \$6,078,290,596; funded debt, \$6,465,290,839; unfunded debt, \$310,345,867; current accounts, \$479,957,935; sinking and other funds, \$140,679,814; profit and loss, \$556,508,555, making total liabilities of \$14,631,073,606. Assets are shown as follows: Cost of railroads and equipment, \$10,865,683,376; investments, \$2,345,515,940; other assets, \$455,053,772; current accounts, \$287,854,729; profit and loss, \$76,965,789; total assets, \$14,631,073,606.

The Manual also presents statistics based on reports from 197,438 miles of line as follows: Passenger-train mileage, 403,213,178; freight-train mileage, 508,210,140; mixed-train mileage, 22,990,130; total, 934,413,448; passengers carried, 655,130,236; passenger mileage, 19,706,908,785; tons of freight moved, 1,192,136,510; tons of freight moved one mile, 156,624,160,024; passenger earnings, \$396,513,412; freight earnings, \$1,197,212,452; other earnings, \$115,715,822; miscellaneous, \$11,373,214, the latter being from incomplete returns; total traffic revenue covering 197,887 miles, \$1,720,814,900; operating expenses, \$1,160,788,623; net earnings, \$560,026,277; other receipts, \$77,633,483; total available revenue, \$637,689,760.

Payments were made from available revenue as follows: Interest on bonds, \$222,614,909; other interest, \$9,733,560; dividends, \$151,046,537; rentals, interest, \$40,622,542; dividends, \$27,154,215; miscellaneous, \$19,970,212; total rentals, \$87,746,969; miscellaneous, \$57,408,351; total, \$528,523,326; balance, surplus over fixed charges and miscellaneous payments, \$109,166,434.

The book also reports for the South Atlantic States, the Gulf States and the Mississippi Valley States total capital of \$688,856,784; bonded debt, \$760,093,074; total liabilities, \$1,666,266,700; cost of railroads and equipment, \$1,469,635,628.

The Manual will soon be issued from the press, and will contain the latest information published up to a fortnight ago.

Chesapeake & Ohio Rumors.

President George W. Stevens of the Chesapeake & Ohio Railway is quoted in a dispatch from Pittsburg as saying that he proposes to consider the possibility of building a more direct connection from the C. & O. to that city. The proposition is to connect the Greenbrier branch of the Chesapeake & Ohio from Durbin, W. Va., by a new line to Red Stone Junction, Pa., on the Pittsburg & Lake Erie Railroad. Mr. Stevens is further reported as saying that he believes the line will eventually be built.

From Kentucky it is reported that the Chesapeake & Ohio's extension, which is now being constructed up the Big Sandy valley from Whitehouse to Pikeville, will be in operation as far as Paintsville by January 1, and as far as Prestonsburg a month later.

An unconfirmed report from Richmond says that the general offices of the Chesapeake & Ohio are to be removed from that city to Clifton Forge, Va., the latter place being more centrally located on the system.

An Illinois Central Special.

One of the features in connection with the General Passenger Agents' Convention at New Orleans was the running of a special train of Pullman cars from Chicago to the Crescent City and return, which carried as guests of the Illinois Central Railroad nearly 100 delegates to the convention and members of their families. The train was composed of cars of the finest grade made by the Pullman Company, and during the trip the guests were enlivened by musical entertainments, provided, as was everything else en route, by the railroad company. The visitors were interested to find that the Illinois Central now has practically a double-track system from Chicago to New Orleans, one that has few grades and curves and capable of handling an enormous volume of traffic. Had such a train service and entertainment been purchased, it is stated, the entire cost could not have been far from \$10,000.

Flat-Top Railroad.

Construction is to begin in a short time on the Flat-Top Railroad, one of several coal lines recently projected in West Virginia. This road is to reach the coal field of the Big Flat-Top Coal Co., and President Charles E. Hawker of the latter writes from Fairmont to the Manufacturers' Record that final surveys and rights of way for the line have been secured from Raleigh Station, on the Piney Creek branch of the Chesapeake & Ohio Railway in Raleigh county, West Virginia, for a distance of twenty miles, and it is expected that by June next this much of the line will be in operation. The entire line projected extends twenty miles further to Bramwell, on the Norfolk & Western Railway, forty miles from Raleigh Station, but some time will elapse before construction is begun on the last twenty miles of the road.

Wabash Pushing Eastward.

The Wabash Railroad will, according to a report from Pittsburg, have its bridge over the Monongahela river there completed in about two months, and will then be able to run trains into the city.

The Wabash is also reported to be making active progress in the construction of the Buckhannon & Northern near Grafton, W. Va. This line, in connection with the Green County Railroad, which will build that part of the Wabash's southern extension lying in Pennsylvania, will furnish the connecting link from Pittsburg to the West Virginia Central.

Wabash interests are said to be purchasing coal lands near Knottsville, W. Va., and extending from there to the Tygart river at Cecil. A survey has been made for the Cecil & Sandy Creek Railroad, which will open up these lands.

Hammond & Eastern.

The Hammond Lumber Co., Limited, of Hammond, La., writes the Manufacturers' Record that its railroad, the Hammond & Eastern, which is now being used for logging only, will in course of time probably be used for other purposes, as it is being built in territory that has no railroad. The main line is running almost due east from Hammond towards Covington. This will cross Tangipahoa parish and go into St. Tammany parish, and the branch line runs due north from Hammond to the east of the Illinois Central

Railroad. There are four miles of main line, but if built to Covington it will be about twenty miles long. The branch is three and one-half miles long.

Northern Central Work.

The Northern Central Railway Co. has decided to increase its capital to \$20,000,000 by issuing \$8,000,000 of new stock for the purpose of providing for improvements and also for paying off \$2,000,000 of bonds which will come due next July. Mr. John P. Green, vice-president of the Pennsylvania Railroad, which controls the Northern Central, says that it is not proposed to use more than half of the stock in the next two or three years. The improvement expenditures in sight are for paying for the Fairview freight-yards near Harrisburg and for the detour freight lines around Baltimore to avoid sending freight through the tunnels.

Birmingham & Lineville.

Mr. John S. Jemison writes from Lineville, Ala., to the Manufacturers' Record that a charter has not yet been granted to the Birmingham & Lineville Railroad, but application has been filed and books of subscription opened. An organization will be effected about December 1. Only about ten miles of line will be built now—from Pyriton, on the Eastern Railway of Alabama, to Lineville, Ala. The latter place is surrounded by a fine agricultural territory.

A New Texas Line.

The Old River & Trinity Railroad Co. of Dayton, Liberty county, Texas, has been chartered to build a line from Moore's Bluff, on the Trinity river, across Old river to Dayton, on the Texas & New Orleans Railroad, ten miles. The incorporators and directors are C. R. Cummings, W. C. Huff, W. R. Miller, W. Glaser, B. F. Greenwood, F. G. Belk, R. H. Burns, Walter Gartner, Elmo Jones and J. W. Coleman, all of Houston.

A Rumored Deal.

An unconfirmed report from Cuthbert, Ga., says that the Georgia, Florida & Alabama Railroad, of which J. P. Williams of Savannah is president, has purchased the Carrabelle, Tallahassee & Georgia Railroad, fifty miles long, from Tallahassee to Carrabelle, Fla., on the Gulf. J. W. Clark of Tallahassee is president of the latter line.

Railroad Notes.

The Georgia Railroad Co. is erecting a new steel bridge across the Alcovy river at Alcovy, Ga.

The Baltimore & Ohio Railroad has completed its freight cut-off from North Mountain to Cherry Run, W. Va. This line was constructed for the purpose of getting an easier grade over the mountains.

The Santa Fe system has issued a booklet describing the California Limited. It is tastefully printed and prettily illustrated, and contains a large amount of information about the service on this special train.

Mr. W. J. Edwards, president of the Atlantic & Western Railroad, writes from Sanford, N. C., to the Manufacturers' Record that fifty miles of line are under construction and nearly four miles will be completed by the end of December.

Mr. C. F. W. Felt, chief engineer of the Gulf, Colorado & Santa Fe Railway, writes the Manufacturers' Record from Galveston, Texas, that the contract for building the Saratoga branch has been let. The line will be about ten miles long, from Bragg, on the Beaumont division, to Saratoga, Texas.

The Atlanta & Marietta Electric Railway Co., which proposes to build an electric railway from Atlanta to Marietta, Ga., about eighteen miles, has filed a mortgage at Atlanta to the Guaranty Trust Co. of New York to secure \$600,000 of 5 per cent. bonds.

The Gulf & Ship Island Railroad Co. reports for the month ended October 31 gross earnings \$169,270; increase, as compared with the corresponding month last year, \$15,948. From July 1 to October 31, gross earnings \$636,444; increase, as compared with the corresponding period last year, \$79,919.

The Wisconsin & Arkansas Lumber Co. writes the Manufacturers' Record that its line, the Malvern & Freeo Railway, is of standard gauge, laid with 45-pound rails. It is about eighteen miles long, and about eight miles have been recently constructed. It is also proposed to extend about six or eight miles more.

Mr. T. S. Howell of Ellisville, Miss., writes the Manufacturers' Record that the Mobile, Jackson & Kansas City Railroad Co., which last summer took over the Ellisville & Laurel Railroad, in which he was interested, is building a spur into Ellisville from its main line east of that place. The grading has been completed, and it is expected that the track will be laid by the first of the coming year.

A. G. Brown & Co., contractors, who have been working on the Frisco line between Sapulpa, I. T., and Enid, Okla., are reported to have begun work on the Mobile, Jackson & Kansas City Railroad between Houston and Pontotoc, Miss., a distance of twenty miles. R. Kelley is manager for the firm, and the entire graders' outfit will, it is stated, be removed from the Indian Territory to Mississippi.

Mr. Charles A. Goodnow, until recently general manager of the Rock Island system, has been appointed general manager of the Chicago & Alton Railroad, in charge of operation and maintenance. The position of general manager is a new one on the Alton, the highest position in the operating department having been that of general superintendent, which was occupied by Mr. J. H. Barrett, who has just resigned.

According to a dispatch from New York, Speyer & Co. and Kuhn, Loeb & Co. have purchased \$9,600,000 of Baltimore & Ohio Railroad bonds, the lot consisting of \$5,000,000 first mortgage 4 per cents, \$3,000,000 3½ per cent. prior-lien bonds and \$1,600,000 of B. & O. Southwestern 3½ per cents. It is stated that these bonds were some of the securities held in the treasury of the company and that they were issued for improvements during the past two years.

Alabama Steel in Demand.

The Tennessee Coal, Iron & Railroad Co. has received an order from the Louisville & Nashville Railroad for 30,000 tons of steel rails. The deliveries will not begin until 1904. The steel plant at Ensley is now busy on an order from the Alabama Great Southern Railroad for 5000 tons of 75-pound rails. In October the Ensley plant manufactured 17,045 tons of steel ingots.

Two new steamships for the Ocean Steamship Co., operating from Savannah, are nearing completion at the yards of the Delaware Shipbuilding & Engine Co., and the first of them, it is expected, will be launched about January 1.

The return from St. Louis of a committee of the Commercial Club of Birmingham has revived interest in having at the Louisiana Purchase Exposition a representative State building.

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FOREIGN TRADE.

This department is designed to set forth opportunities for the extension of the trade abroad of American manufacturers, and to record facts about the rapidly-developing commerce of the South.

OBSTACLES TO TRADE.

Criticisms from a Business Firm in Uruguay.

Coates & Co. of Montevideo, Uruguay, in a letter to the Manufacturers' Record writes:

"We have received this morning the advices of two shipments of similar class of goods, respectively from Canton, Ohio, and from Birmingham, England. Now let the American manufacturer note which market suits us best. Both lots were sold f. o. b. nearest port. The rates, all inclusive, for the two shipments were 56 cents per cubic foot from New York, against 26½ cents from Liverpool.

"They have both been carried in British bottoms and, we believe, by the boats belonging to the same firm, and, try as best we can, the only important difference we can discover is that whereas the English forwarding agent was satisfied with an agency charge of one and one-half cents per foot and total charge thirty-six cents only, the New York agent must have debited us with something like twenty times that sum.

"The charges on an f. o. b. shipment New York have thus worked out 33 per cent. of the invoice value of \$55, and with such shipping charges the American manufacturer has to be satisfied with our regretful report that there is no opening for the profitable business we had anticipated without counting upon the intervention of the New York forwarding agent.

"There are all sorts of trade-extension "leagues" in your country, but, if we may be permitted the suggestion, a "league" that would insure forwarding on an equitable basis would be the best means your manufacturers might favor alike in their own as in the interest of the foreign buyer."

Water-Powers in Spain.

F. de P. Ciriquian, Calle Bruch 144, Barcelona, Spain, writes to the Manufacturers' Record that he would like to have estimates and drawings for electric outfits for making carburet of lime (calcium carbide) having 4000 horse-power at the axle of the turbine. He says that he knows of two available water-powers, one of them developing 72,000 horse-power and the other 42,000 horse-power. He adds:

"So far all our makers of calcium carbide have supplied themselves with outfits from Germany, and I would like to be able to quote prices so as to make installations at the powers mentioned from North America. I know of many important waterfalls in Spain suitable for manufacturing purposes, and I desire to turn them to commercial use. I have on hand various electric railroad and tramway enterprises, and am offering for sale power concessions and construction."

For Felt Machinery.

Le Mois Scientifique et Industriel, 8 Rue Nouvelle, Paris, writes the Manufacturers' Record as follows:

"One of our patrons in Spain is desirous of establishing a felt factory, but, not being himself competent, has engaged us to hunt up the best machine to supply his wants in that respect. We would therefore be under many obligations if you would forward us at once a list of American concerns making such machines, as well as accessory apparatus for that industry, and, if possible, cause

catalogues and other information on the subject to be sent us without delay."

Gavin Jones & Son of Cawnpore, India, write to the Manufacturers' Record that, with offices both at Calcutta and Cawnpore, they are ready to introduce American goods into the Indian market. They are agents for machinery and mill stores, and they advise that firms wishing to push their goods in India should send out small stocks on commission sale as a trial.

Thousands of Homeseekers.

Mr. S. A. Hughes of St. Louis, general immigration agent of the 'Frisco system, writes to the Manufacturers' Record that, starting in Southwest Missouri and traveling through Northern Arkansas, Oklahoma, Indian Territory, Kansas and Texas, one will find activity on every hand as a consequence of a movement into that part of the country of thrifty and progressive people. Many young men have taken advantage of the opportunities there and have moved from older-settled communities in the North and West. Mr. Hughes mentions among the mineral riches of that section lead, zinc, copper, iron, coal, marble, granite and salt, and dwells upon the agricultural and horticultural advantages, the 'Frisco system, for instance, having handled in one season 4000 carloads of apples, mainly from Southwest Missouri and Northern Arkansas. He refers to the oil and gas developments of Kansas and the productivity of Oklahoma, together with the rise of Texas as a rice producer and its adaptability to tea culture, and he adds: "It should be impressed upon the people of Pennsylvania and the New England States that in this section there is a home for thousands of persons who are now toiling in the mines and in the factories, many of them barely earning a scant living for themselves and families, and those who are in a position to accumulate a little money not having the opportunity to invest it." He adds that thousands of persons are taking advantage of the semi-monthly homeseekers' excursion of the 'Frisco system to acquaint themselves with the wonderful opportunities in its territory.

The movement to add 600 members to the Industrial League of Memphis, begun about two weeks ago, has already increased the membership by ninety. Nine committees were appointed to canvass the city for the purpose, and the new membership is a partial result of the work of three of the committees.

The Irishman, said to be the largest ocean-going steamship that ever came to New Orleans, loaded last week at the Stuyvesant docks with 30,000 bales of cotton. The vessel is 510 feet long and 62 feet beam, with a draft of 29 feet 6 inches when loaded.

A contract was closed last week by a New York company for 50,000 barrels of cement to be used in constructing locks and dams on the Bigby river at Demopolis, Ala. The value of the cement is \$100,000, and to ship it will require 333 cars.

The Easley Cotton Mill of Pickens, S. C., has recently sold 2500 bales of goods, aggregating 2,000,000 yards, for direct shipment to China.

Nine thousand nine hundred and seventy tons of cottonseed meal and 233 tons of cake were exported from Galveston during October.

On the last day of October fourteen steamers, with cargoes valued in the aggregate at \$5,192,455, cleared from Galveston, Texas.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

The Cotton Movement.

During the two months ended October 31 the amount of cotton brought into sight was 2,704,044 bales, a decrease under the same period last year of 513,217 bales; exports were 1,408,260 bales, a decrease of 167,035 bales; takings by Northern spinners, 276,429 bales, a decrease of 97,815 bales; by Southern spinners, 364,062 bales, a decrease of 26,131 bales.

The amount brought into sight during the sixty-seven days of the season up to November 6 was 3,150,988 bales, a decrease of 471,077 bales; exports were 1,600,915 bales, a decrease of 144,709 bales; takings by Northern spinners, 323,748 bales, a decrease of 118,688 bales; by Southern spinners, 411,062 bales, a decrease of 31,131 bales.

The Mollohon Mills.

Steady progress is being made on the erection of the additions of the Mollohon Manufacturing Co. at Newberry, S. C. This company was mentioned last December as to add 14,000 spindles, but it has been decided recently to install 23,000. Its capital stock was increased from \$200,000 to \$500,000 in order to provide for these improvements. The company was originally organized in July, 1901, and began operations about a year later with 11,000 spindles and 300 looms. When it was found that an increase of equipment was warranted by the demand for products these further improvements were decided on.

Textile Notes.

The Leaksville (N. C.) Cotton Mills has decided to add a dyeing equipment, and will at once arrange for the erection of a large dyehouse.

The Tennessee Manufacturing Co. of Nashville, Tenn., proposes arranging to secure additional capital so that its plant can be remodeled and the entire equipment be modernized. It is stated that about 40,000 spindles and 1000 looms are in position.

Clifton (S. C.) Manufacturing Co.'s No. 3 mill building, mentioned last week as contracted for, will be four and one-half stories high, 125x345 feet. It will be equipped for manufacturing print cloths, 31,360 spindles and 1000 looms to be the installation.

The Williamsburg (Va.) Knitting Mill Co. had a meeting of stockholders last week and voted to amend charter so as to increase capital stock from \$50,000 to \$80,000 to enlarge the plant, as reported proposed last month. This additional capital will be issued as 10 per cent. preferred stock.

The Sparta (Tenn.) Knitting Mills has completed its plant originally announced last April. An equipment of modern machinery has been installed for manufacturing 100 dozen garments, medium to heavy ribbed and fleeced underwear. The company is capitalized at \$15,000, and Richard Hill is president.

It is proposed to organize a \$500,000 stock company to establish a cotton mill that will employ about 900 operatives. South Carolina cotton manufacturers are said to have offered to subscribe \$250,000

of the capital provided local investors will furnish a like amount. Messrs. Grant & McAdams, attorneys, are understood to have charge of the proposition.

The Calumet Manufacturing Co. of Liberty, S. C., mentioned last week as incorporated, with \$50,000 capital, to build a yarn mill, now proposes building a larger plant than was at first intended; consequently the organization of the company will be delayed for a short time. Messrs. H. L. Clayton, B. H. Callahan, W. H. Chapman and W. T. Smith were the incorporators.

The Lumberton (N. C.) Cotton Mills has about completed building and other improvements for a \$100,000 addition to its hosiery-yarn mill. Contract for the new machinery has been awarded and it is arriving and being placed in position. By January 1 this addition will be in operation. It is not stated what number of spindles is being installed. Six thousand spindles was the previous equipment.

It is proposed to organize a stock company to build and operate a cotton mill at Elrod, Ala. Water-power will be developed and an electric plant built to transmit power to the mill. Eastern capital will be largely interested, and further details regarding the enterprise will be announced in the near future. Dr. J. G. Elrod of South Hill, Ala., owns the water-power and land which is proposed to be developed for the enterprise.

The Continental Manufacturing Co., which was incorporated last month with \$150,000 capital, has acquired the old Victor Cotton Mills at Charlotte, N. C., and will remodel the plant. Contract has been awarded for thirty cards, drawing frames, lappers and other machinery, and the entire equipment is being overhauled. Operations will soon be resumed with 12,672 spindles. Messrs. John H. McAden, C. M. G. Butt and G. E. Wilson incorporated the new company and will meet next week to elect officers.

Northern hosiery manufacturers are organizing company to establish a knitting mill which they desire to locate in the South. Endeavors are being made to select a location through the Southern Railway Co.'s land and industrial agent, M. V. Richards, 1300 Pennsylvania avenue N. W., Washington, D. C. The projectors want the citizens of town in which they locate to donate (or rent at minimum figures) a suitable frame building and subscribe \$10,000 to the capital stock. The cost of the machinery will be about \$15,000, and a working capital of \$10,000 will be needed.

QUOTATIONS OF COTTON YARNS.

By Buckingham, Paulson & Co., New York, Philadelphia and Chicago,

November 10.

No. 10s-1 and 12s-1 warps.....	17 ¹ / ₂ @ 71 ¹ / ₂
No. 14s-1 warps.....	18 ¹ / ₂ @ 71 ¹ / ₂
No. 16s-1 warps.....	19 6 ¹ / ₂
No. 20s-1 warps.....	19 ¹ / ₂ @ 6 ¹ / ₂
No. 22s-1 warps.....	20 6 ¹ / ₂
No. 26s-1 warps.....	21 6 ¹ / ₂
No. 6s to 10s yarn.....	16 ¹ / ₂ @ 17 ¹ / ₂
No. 12s-1.....	17 ¹ / ₂ @ 17 ¹ / ₂
No. 14s-1.....	18 ¹ / ₂ @ 17 ¹ / ₂
No. 16s-1.....	19 6 ¹ / ₂
No. 20s-1.....	19 ¹ / ₂ @ 20 ¹ / ₂
No. 22s-1.....	21 6 ¹ / ₂
No. 26s-1.....	22 6 ¹ / ₂
No. 8s-2 ply soft yarn.....	17 ¹ / ₂ @ 18
No. 10s-2 ply soft yarn.....	17 ¹ / ₂ @ 18
No. 8s-2 ply hard.....	17 6 ¹ / ₂
No. 10s-2 ply hard.....	17 ¹ / ₂ @ 17 ¹ / ₂
No. 12s-2 ply hard.....	18 6 ¹ / ₂
No. 14s-2 ply.....	18 ¹ / ₂ @ 17 ¹ / ₂
No. 16s-2 ply.....	19 6 ¹ / ₂
No. 20s-2 ply.....	20 6 ¹ / ₂
No. 22s-2 ply.....	21 6 ¹ / ₂
No. 26s-2 ply.....	22 6 ¹ / ₂
No. 30s-2 ply yarn.....	23 @ 23 ¹ / ₂
No. 10s-2 ply.....	17 6 ¹ / ₂
No. 8s-3, 4 and 5 ply.....	17 6 ¹ / ₂ @ 17 ¹ / ₂
No. 24s-2 ply chain warps.....	20 6 ¹ / ₂
No. 24s-2 ply chain warps.....	22 6 ¹ / ₂
No. 26s-2 ply chain warps.....	22 ¹ / ₂ @ 22 ¹ / ₂
No. 30s-2 ply chain warps.....	23 ¹ / ₂ @ 23 ¹ / ₂
No. 16s-3 ply hard twist.....	19 6 ¹ / ₂
No. 20s-3 ply hard twist.....	20 6 ¹ / ₂
No. 26s-3 ply hard twist.....	21 6 ¹ / ₂

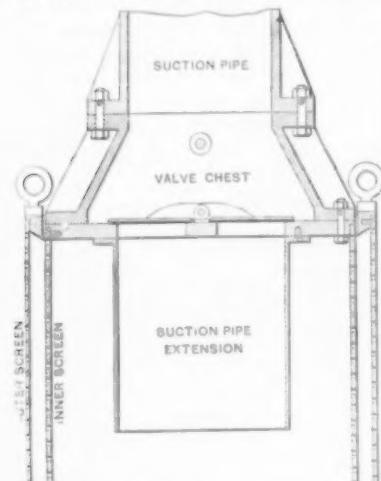
Very strong, with good demand.

The oyster industry of Texas is valued this year at \$135,775.

MECHANICAL.

Foot Valve and Screen.

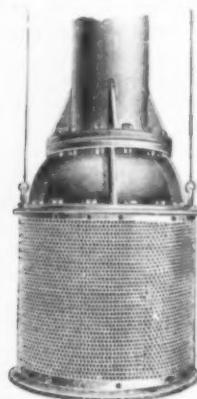
In the endeavor to meet the demand for valve and pipe screens that will fulfill



CONTINUOUS SERVICE FOOT VALVE AND SUCTION PIPE SCREEN.

requirements manufacturers have introduced simple yet effective devices.

Accompanying illustrations show a foot valve designed with a view to automatically obviating, as nearly as possible, the trouble caused through the entry



CONTINUOUS SERVICE FOOT VALVE AND SUCTION PIPE SCREEN.

of refuse into the pipes of water systems.

It consists of the combination of a foot valve with a set of tubular screens, the smaller one of which is fixed to the foot valve proper and placed within the other, and so arranged that the larger or outside



CONTINUOUS SERVICE FOOT VALVE AND SUCTION PIPE SCREEN.

one can be raised above the water line for cleansing without the necessity of disconnecting the valve or stopping any part of the plant.

All refuse, such as leaves, fish, sticks,

paper, rags, etc., that lodge against the outer screen are easily removed therefrom when this screen has been brought to the surface of the water. For means of raising it ropes or chains are attached to the screw-eyes, as illustrated, and in most cases, excepting large-size valves, one man can attend to the cleaning in a very few minutes.

As the outer screen is lowered again into position the knives or scrapers attached to it at top and bottom scrape over the outer surface of the inner screen and clean it.

By means of the suction-pipe extension the suction is brought to within a few inches of the bottom plate of valve, thus permitting of successful operation in shallow water.

In cases where the lift is not great and the suction pipes are short and foot valves are not a necessity there is recommended the continuous service foot-valve screens, in which case the valve chest is not furnished and the section pipe is flanged to the bridge-plate of valve.

This successful device is manufactured by the Newman Manufacturing Co., 26 Cortlandt street, New York.

Small Ice Plants.

The idea of making ice for the family or small farm by a light, conveniently-operated machine is a pleasing one, and has given rise to attempts to introduce an ice machine of small size for such purposes.

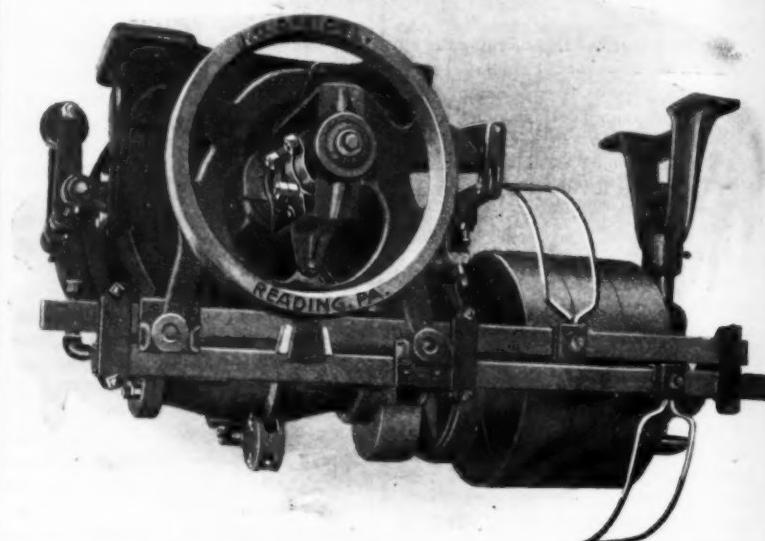
There are very large sections of the world, and even a large portion of the United States, where ice is not naturally formed in sufficient quantities for commercial use, and in these sections many isolated homes, ranches and even small towns where the storing of a supply of ice or its transportation from the nearest factory makes it too expensive. For these places the ice machine is a very great convenience and often a necessity.

tions sent with the apparatus make it possible for anyone of a mechanical turn of mind to erect and operate the machinery with satisfaction. The refrigerant used is the safe and odorless carbonic anhydride, familiar to everyone under its more common name of carbonic acid gas. This gas is absolutely odorless and harmless to life, and can readily be purchased.

Correspondence regarding this equipment or larger equipments up to 100 or more tons capacity is invited by the Brown-Cochran Company, 14 Globe street, Lorain, Ohio.

Improved Screw-Winding Machine.

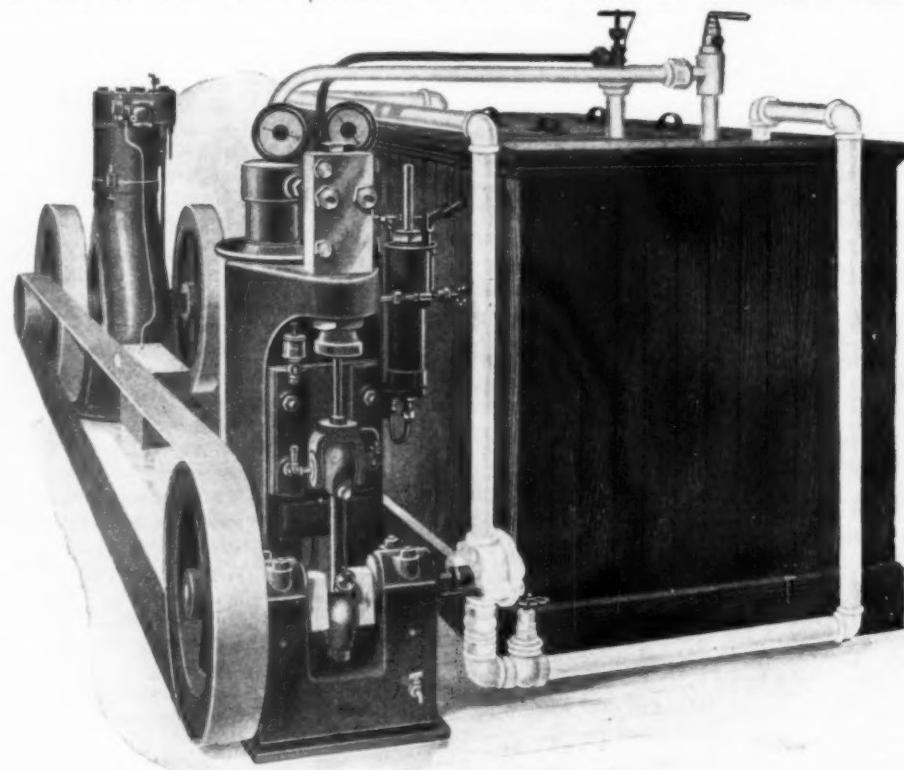
Improvements in machinery for the operation of elevators are being introduced from time to time. An accompany-



IMPROVED CEILING SCREW-WINDING MACHINE FOR BELT-POWER ELEVATORS.

The large pipe shown leading to and from the rotary pump at the right-hand end of crankshaft of refrigerating machine may be conducted to a refrigerator and the brine from the little tank circulated through coils of common pipe for the purpose of cooling the space. The tank is regularly equipped with a sufficient number of cans to make ice at the rate of 200 pounds in ten hours' run, but any

illustration presents an improved ceiling screw-winding machine for belt-power elevators that will attract the attention of all interested in such equipment. The machine is of new and improved design, provided with the Hindley worm gearing, cut from solid planks, and large ball thrust bearings, thereby reducing friction and increasing power. It is automatic top and bottom stops and a never-



ICE PLANT FOR SMALL CONSUMER.

In the endeavor to meet the demands of such users the Brown-Cochran Company is offering the refrigerating machine here-with illustrated.

This machine is claimed to be the smallest practical device of its kind on the market. The weight of the whole outfit, including gas engine, is a little over a ton packed for shipment and the floor space occupied is of small importance. Instruc-

tion of the capacity of the machine can be diverted by the brine coils just described for use in cooling refrigerator instead of making direct ice. The gas engine is the well-known two-and-one-half-horse-power Brown engine, and being connected by belt as shown, its power can be readily diverted to any other use, such as chopping feed or running other farm, dairy or household machinery.

failing slack-cable stop, instantly stopping the machine if anything should interfere with the descent of the car.

The machine is very powerful, being geared 46 to 1 and having 20x4-inch belt pulleys for four-inch belts. The loose pulleys are provided with self-oiling bushings, which will not wear out the shaft, and can be oiled while pulleys are running. For a car speed of forty feet per

this equipment to 100 or
by the
lode street,

Machine.
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minute the worm shaft should make 300 revolutions.

The machine is sold either alone or in connection with the other parts belonging to an elevator or can be put up complete.

INDUSTRIAL NEWS OF INTEREST.

Returned From South America.

C. N. Fenner of the Engineering Company of America, 74 Broadway, New York, has returned to New York. He has been for some months in Bolivia, South America, making examinations of various mining properties on behalf of the company.

Logging and Sawing Contract.

Contractors prepared to take contract for logging and sawing 15,000,000 feet of cypress timber are advised to address Messrs. J. S. Bailey & Co. of Asheville, Ga. This firm requests that correspondents give size of steam logging machines and capacity of band mill to be used. References will also be required.

Lunkenheimer's Paris Branch.

Because of the increasing demand in Europe for its specialties, a branch office has been established at 21 Boulevard Voltaire, Paris, France, by the Lunkenheimer Company of Cincinnati, Ohio. The company will carry a complete stock of its superior brass and iron steam specialties and engineering appliances.

E. M. Gibbon With Engineering Company.

It is announced that E. M. Gibbon, formerly with J. E. Shirren, mill architect and engineer, of Greenville, S. C., has taken a position with the Engineering Company of America from their Southern office at Charlotte, N. C., Henry E. Knox, Jr., being the Southern manager.

Want Timber Lands?

The South is furnishing a large part of the lumber at present used, this lumber being cut from the many valuable tracts of timber land in that section. There are some timber properties for sale in Virginia. The Graham Lumber Co., Christiansburg, Va., solicits correspondence from parties interested in buying timber lands in that State.

Another Standard Contract.

Municipal contracts for electric plants continue to be obtained by the Standard Electric Co. of Norfolk, Va. This company's latest award is from the town of Edenton, N. C., for a complete plant, consisting of arc and commercial circuits and power-house equipment. Westinghouse apparatus will be used throughout the entire installation.

New Steel-Rail Plant.

Dealers in railway material and users of steel rails may be interested to know that another modern rail plant has been completed. This latest plant has a complete up-to-date equipment for the manufacture of steel rails in standard sections up to fifty pounds, and has been under construction for some months. It is owned by the Fairmont Steel Co., 32½ Main street, Fairmont, W. Va.

Chief Engineer for Allis-Chalmers.

Irving H. Reynolds will shortly retire from the Allis-Chalmers Company and the duties of chief engineer will be assumed by the engineers in charge of the various departments, these engineers availing themselves of the advice of Edwin Reynolds, consulting engineer of the company. This announcement is made from the general offices, New York Life Building, Chicago, and will interest the machinery trades.

Improved Wrench Patented.

Manufacturers of wrenches will be interested to know that patents have been granted on an improved wrench invented by Wm. A. Cumbie of Morris Station, Ga. This invention relates to a combined pipe and nut wrench providing novel mechanism, whereby the movable jaw is automatically locked in its adjusted position and thrown out of engagement. Full details can be obtained by addressing Mr. Cumbie.

Wants Capital for Manufacturing.

A practical manufacturer desires to correspond with party who can invest from \$75,000 to \$100,000 in a manufacturing plant. This plant is said to be one of the best enterprises in the South, and will stand the closest investigation of prospective investors. The party seeking additional capital will invest an equal amount to that mentioned. Full particulars can be obtained by addressing

The machine illustrated is also built with single pulley for direct-belted drive from a reversing motor; also as a floor machine for one or two belts. J. G. Speidel of Reading, Pa., is the manufacturer.

"Practical Manufacturer," care of Manufacturers' Record.

An Electric-Light Franchise.

Men who are interested in establishing lighting plants in the South are advised to note that an electric-light franchise in a growing town is for sale. This franchise is exclusive for twenty years and is free from taxation for five years. The town has a population of 2500, and the owner of the franchise offers entire rights or will take interest in the plant. H. L. Davidson, Sebree, Ky., can give information.

Experienced Canner Wanted.

The projectors of a cannery at Calvert, Texas, want to secure an experienced process man with small capital to become interested in the enterprise. Local investors will furnish from \$5000 to \$10,000. It is stated that there is an exceptionally good opportunity for a cannery plant at Calvert. Tomatoes will be the principal product, but other vegetables and fruit will also be available. For particulars address H. L. Stricker.

Acheson Graphite.

Acheson Graphite is daily becoming in greater demand as the merits of this material become patent. It is used in high-grade protective coatings, lubricating compounds, pipe-joint compounds, as foundry facing, for electrotyping purposes, etc. Manufacturers and others who are interested in this direction are advised to write for particulars regarding Acheson Graphite, manufactured in the electric furnace. The International Acheson Graphite Co. of Niagara Falls, N. Y., can give full details.

A Permanent Roofing.

By a combination of scientific principles, the best material and the best processes of manufacture there has been produced a permanent roofing. This roofing has proven its durability and general efficiency on all kinds of buildings and sheds connected with railroads, factories, farms, etc. Its application renders surfaces impervious to weather. The manufacturers of this product have been roofing manufacturers for thirty years. They are Scott & Co., 234 E. Front street, Cincinnati, Ohio, and "Asteroid" is the roofing referred to.

The Osborn Engineering Co.

Some of the best experts in consulting, civil, mechanical, electrical and mining engineering have combined their services and facilities in incorporated companies, and are prepared to undertake contracts of any extent from the largest to the smallest. One such company, one of the most successful, is the Osborn Engineering Co. Its expert services have been retained by some of the largest and most exacting railroads and manufacturing industries throughout the United States. Main offices in Osborn Building, Cleveland, Ohio.

Standard Buys Spartanburg Enterprise.

The Standard Electric Co. of Norfolk, Va., has absorbed the Spartanburg (S. C.) Electrical Machine Co., including a large stock of electrical equipment and a number of Southern contracts for the installation of lighting plants with engines, generators, necessary wiring, etc. These contracts include the Hamer (S. C.) Mills, Pauline (S. C.) Oil Co., Arcadia Mills, Spartanburg, S. C., and a number of others. The Spartanburg stock, fixtures, etc., have been shipped to the Standard's store at Charlotte, N. C.

New Mail-Bag Catcher.

It is well known that the United States Postoffice Department is seeking an improved device for catching mail bags from and delivering them to trains running sixty miles an hour or at slower speed. The department will soon advertise for proposals and bids from owners of patented devices of that character. William L. G. Appleby of Germantown, Md., has invented and patented a bag catcher and deliverer which he claims will give exceptional service in all kinds of weather and in all climates. He wants to correspond with manufacturers or capitalists who can be interested in introducing the device and submitting proposals to the government.

Floor and Woodworking Mill.

Manufacturers and investors looking for an opening in roller flour milling or woodworking are advised to note that a plant in a large Virginia town is offered for sale. The property includes four-story brick building, with machinery for 100 barrels of flour and 400 bushels of meal per day; three-story brick building, with woodworking machinery and ample water-power to operate all the equipment. Side-tracks of two railways are at the door, and the surrounding country supplies grain and timber. "M. B." care of Manufacturers' Record, can give further information.

Peck-Hammond Heating and Ventilating.

It is notable that the owners of new buildings erected throughout the South select only the best possible equipments for the convenience of the building's occupants. This is seen in the contracts awarded for installing heating, ventilating and sanitary apparatus in school buildings. Such a school contract has just been awarded at Bluefield, W. Va., to the Peck-Hammond Company of Cincinnati, Ohio. This company also has contract for installing heating plant in the Reynolds Davis Grocery Co.'s large building at Fort Smith, Ark.

Pump of Novel Design.

A centrifugal pump of novel design and unprecedented capabilities will be exhibited at the St. Louis Exposition by Henry R. Worthington of New York. That this pump marks a distinct departure from the usual centrifugal practice will be appreciated when it is stated that it will be capable of delivering about 500 gallons of water per minute against a head of 250 pounds per square inch, and with high efficiency. This pump is of the type known as the multi-stage turbine centrifugal, and differs in many respects from the centrifugal pumps with which engineers have been familiar.

Sample of Flintkote Roofing.

If you are erecting new buildings or need a good roof on your old buildings, get a sample of Flintkote Roofing before selecting the material to be used. This roofing is recognized as thoroughly protective, and will give years of service. Any intelligent man can lay it. Messrs. J. A. & W. Bird & Co. of Boston, the manufacturers, are prepared to send sample and leaflet now ready for distribution. Each roll of this roofing contains 216 square feet, being two squares of 100 square feet each and sixteen square feet for laps and butts. A unique feature is that sufficient nails, caps and cement for laying accompany each roll.

Watchman's Time Detectors.

A modern invention that has been of great benefit to manufacturers and other owners of large structures wherein night watchmen are employed is the Watchman's Time Detector. The device has been so perfected that it is no longer an experiment, but fully qualified to perform the service for which intended. These detectors, latest improved, with safety-lock attachments, portable and electric, for any number of stations, give an exact record of the night watchman's rounds. A marked advantage to users is the reduction of insurance rates. B. Nanz, 127 Duane street, New York, offers detectors, of which he will give full particulars on request.

A Knitting-Mill Bargain.

The Southern knitting industry is advancing steadily, and it is seldom that a complete mill is found for sale. But one of the few instances of such offerings has arisen because of the death of manager and consequent disagreements among stockholders of a plant in the Carolinas. The property includes twenty knitting machines, with ribbers, loopers, sewing machines, etc., to match, suitable mill building, power plant and dyeing equipment, ten acres of land and three tenant houses. This is a splendid opportunity for an experienced man with about \$3000. For further details address J. W. White, general industrial agent Seaboard Air Line Railway, Portsmouth, Va.

A Modern Worsted Mill.

Occasionally it will occur that an established textile plant in the New England field is placed on the market. This is seen in the announcement that the modern worsted weaving and finishing mill of the Simpson & Kirkaldy Company at Woonsocket, R. I., is to be sold at auction on November 17. This is not an abandoned or wornout plant, but one that is equipped with modern machinery and ready to start manufacturing within twenty-four hours or sooner if the raw materials are provided. The property represents an investment of about \$90,000 in build-

ings and machinery, etc. A catalogue in detail can be secured by addressing the auctioneers in charge, Messrs. J. E. Conant & Co., Lowell, Mass.

Hose for Pneumatic Tools.

Great advancement in pneumatic tool work is being made in many avenues of industrial activity. This has naturally produced an increasing demand for various supplies needed in pneumatic tool work. To meet the popular demand for a grade of hose that will do good service and answer all the requirements of pneumatic tool work there has been introduced a brand with a special cover able to withstand severe service, due to pulling the hose over rough floors, the sharp edges of iron, etc. The tube is constructed to be practically oilproof, and is not affected by extreme heat. This hose is the Gibraltar brand manufactured by the New Jersey Car Spring & Rubber Co. of Jersey City, N. J. Inquiries for samples and prices are solicited.

A Great Engineering Work.

Many people have considered the Brooklyn Bridge one of the wonders of the world. It was certainly one of the greatest undertakings of American engineers, and the name of Roebling will be forever suggested by it. Now that a second bridge is being constructed across the East river at New York, the name of Roebling is again connected with a great engineering feat. Rapid progress is being made on this bridge, all the wire cables for which are being furnished by the John A. Roebling Son's Co. of Trenton, N. J. There are four main cables fourteen inches in diameter, each strand containing 208 wires. The total length of the bridge is 3200 feet, width 118 feet, and length of river span 1600 feet. A picture of the bridge and these brief facts are shown on an advertising blotter issued by Roebling.

Southern-Made Structural Iron.

Structural iron and steel enters very largely into construction operations at the present day. Originally used in the erection of bridges principally, structural methods are now followed in building power-houses, factory buildings, apartment-houses, hotels and various other structures. Activity in the South has called for a great quantity of structural metal, and while a large portion of this has naturally been supplied by iron and steel works of the North and East, yet there are a number of important Southern establishments assisting to meet the demand. These Southern plants not only sell in their own territory, but also in other States, and take contracts for erecting all kinds of buildings, bridges, viaducts, turntables, etc. The Virginia Bridge & Iron Co. of Roanoke, Va., is one of the best-known enterprises of its character in the field, and has been most successful in completing many important contracts.

About a Baltimore Hotel.

In these days of general convenience for health and comfort, business men are not content that the hotel service offered them shall fail to meet demands. The result is that there is a limited class of public hospitals entering to a most discriminating patronage, yet frequently it is not always easy for visitors to a city to readily find such establishments. When Southern manufacturers and business men of other branches of industry find themselves in Baltimore it is often a question what hotel shall be selected for their temporary sojourn where satisfaction can be obtained, and yet at prices that are not prohibitive. Such men are advised that the Southern Hotel, Calvert near Baltimore street, Baltimore, offers appointments and service on the European plan that will appeal to their judgment and doubtless be a revelation to them. Applications for rates receive the promptest attention from the management.

Davis Water-Wheels Selected.

The utilization of water-power in the greatest degree of economy and efficiency calls for the installation of water-wheels that have proven their worth in actual installation. Such wheels are those manufactured by the Davis Foundry and Machine Works of Rome, Ga. This company manufactures the Davis Double Turbine Water-Wheel, both vertical and horizontal, now in extensive use throughout the South. It has just made a number of shipments to various sections, including an improved special 45-inch wheel and a carload of power-transmission machinery to A. K. Seago & Co., Big Sandy, Texas. Another important contract just secured is from the city of Dadeville, Ala. It calls for a pair of latest improved special 20-inch horizontal wheels coupled together in one iron flume, together with governor, feeder pipe, draft

[Continued on Page 335.]

CONSTRUCTION DEPARTMENT.

TO OUR READERS!

In order to understand and follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY.

The Manufacturers' Record seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

ADDRESS FULLY.

To insure prompt delivery of communications about items reported in these columns, the name of one or more incorporators of a newly incorporated enterprise should be shown on the letter addressed to that town, or to the town of the individual sought, as may be shown in the item, as sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. This will help to insure prompt delivery of your communication, although it is inevitable that some failures on the part of the postal authorities to deliver mail to new concerns will occur.

WRITE DIRECTLY.

It is suggested to advertisers and readers that in communicating with individuals and firms reported in these columns a letter written specifically about the matter reported is likely to receive quicker and surer attention than a mere circular.

ALABAMA.

Anaiston—Medicine Factory.—Long Life Remedy Co. has been organized, with capital stock of \$25,000, to establish plant for manufacturing proprietary medicines. Rev. H. E. O'Grady of Mobile, Ala., is president; F. C. Doyle, secretary; Joseph Eros, treasurer, and Wade H. Elam, general manager.

Anniston—Shovel Factory.—The Adair Machine Works, recently reported as installing machinery for manufacturing steel shovels, has practically reorganized and is incorporated, with capital stock of \$12,000. H. B. Roddill is president, and Howard W. Sexton, secretary.

Attala—Coal Mining.—Dispatches state that Boston capitalists have purchased 750 acres of coal land for \$75,000, and will open coal mines at an early date.

Birmingham—Electric Plant.—Birmingham Railway, Light & Power Co. has let contract for further enlargements to its power-house, the additions to building and new machinery to cost over \$200,000. Present capacity of 9,000 horse-power will be increased to 14,000 horse-power.

Birmingham—Street-paving Contract.—City has awarded contract to Nashville Roofing & Paving Co. of Nashville, Tenn., for bituminous macadam paving to cost about \$28,500 and for vitrified brick paving to cost \$6746.

Birmingham—Coal Mining.—Chartered: Blue Jacket Mining Co., by J. W. Miller of Green Pond, Ala.; T. B. and B. N. Perry of Birmingham.

Brewton—Lumber Plant.—Cedar Creek Mill Co., now developing timber land and manufacturing lumber, proposes expending \$150,000 to enlarge its mills and establish a furniture factory for utilizing hardwoods. Clay deposits have been found, and the establishment of a brick plant is also contemplated. T. R. Miller is president.

Erod—Cotton Mill and Power Plant.—It is proposed to organize a company to develop water-power, transmit power by electricity and build a cotton mill to utilize said power.

Eastern capital will be largely interested. Dr. J. G. Erod of South Hill, Ala., owns the land and water-power to be developed.

Ensley—Brick-machine Works.—Enterprise Brick Machine Co. has purchased site for the erection of its proposed plant to manufacture brick machinery.

Ensley—Roofing-material Factory.—Barrett Manufacturing Co. (of Philadelphia, Cincinnati and other cities) has under construction its branch roofing material factory reported last June. Main building is 100x150 feet. Complete equipment of modern machinery will be installed and raw materials will be secured from the Somet-Solvay Company's by product plant. About \$50,000 will be the cost of the works. O. M. Davis of the Somet-Solvay Company is the superintendent of construction.

Gadsden—Water-works.—The city council has authorized an election on January 19 to vote on issuing \$100,000 in bonds for the construction of water-works system which has been in contemplation. Address The Mayor.

Huntsville—Brewery.—Chamber of Commerce is corresponding with capitalists relative to the erection of a large brewery.

Kemp's Creek—Gold-mining, Lumber Mills, etc.—Piedmont Mining & Lumbering Co. (formerly the Alabama Land and Mining Association) has been incorporated to build chlorination plant to handle ores, to build saw-mills, etc. The company has constructed a ditch six miles long to provide hydraulic facilities for developing gold-bearing properties. A. Salisbury, No. 3 Park Row, Chicago, is president; A. Andrew of Fruthurst, Ala., secretary; Henry Hare of Fruthurst, vice-president, and Frank F. Taylor of Kemp's Creek, consulting engineer and superintendent.

Huntsville—Natural-gas Supply.—The New York-Alabama Oil Co., which has a flowing gas well near Huntsville, has received franchise from the city to lay pipe, erect buildings and install machinery for distributing gas.

Kemp's Creek—Mineral and Timber Lands. Frank F. Taylor, mining engineer, has purchased about 10,000 acres of mineral and timber lands for \$55,000 and proposes arranging for developments in the future.

Mobile—House Furnishings.—Incorporated: Mobile House Furnishing Co., by A. L. Gould, J. W. Beach and B. E. Barlow. The capital is \$2000.

Selma—Iron Works.—The Peacock Iron Works will enlarge its foundry and machine shop, erecting new buildings and installing new machinery for both departments, besides erecting a 30x40-foot office building.

Selma—Brick Works.—Local manufacturers will establish brick works, the equipment of machinery to cost \$30,000. Names of interested parties not announced as yet.

Selma—Cotton Compress.—Selma Press & Warehouse Co. will build a cotton compress.

Selma—Portland Cement Works.—Great Southern Portland Cement Co. (reported last week), incorporated recently with an authorized capital stock of \$3,000,000, will begin construction of the proposed plant within thirty days. A complete equipment of the most modern machinery will be installed for an output of 2000 barrels of Portland cement daily. Boston capitalists are, as has been stated, furnishing most of the capital. B. F. A. Saylor of Rome, Ga., can be addressed by inquirers.

ARKANSAS.

Bearden—Coal Mines, etc.—Freed Oil & Coal Co. has been incorporated, with an authorized capital of \$100,000, to develop coal mines and other mineral properties; incorporators, J. W. Juniel, F. K. Lyman, J. B. Gossett, C. C. Gunnels and J. W. Juniel, Jr.

Benton—Electric-light Plant.—City contemplates building an electric-light plant and is reported as negotiating for its construction. Address The Mayor.

Clarendon—Woodworking Plant.—A. T. Lynch has purchased 900 acres of timber land and will build factory for manufacturing buggy-rim strips.

Clarksville—Coal Mines.—G. L. Pyle proposes organizing a stock company to develop 1000 acres of anthracite coal lands.

Fordyce—Light and Water Plant.—Fordyce Light & Water Co. has been incorporated, with capital stock of \$20,000, for furnishing water and light. B. H. Wood is president; J. G. Patillo, vice-president, and John R. Henson, secretary.

Little Rock—Zinc Mines.—Red Brick Mining Co. has been incorporated and organized, with L. B. Leigh, president; W. K. Ramsey, vice-president, and Alex. C. Hall, secretary-treasurer, to develop zinc mines in Boone county. The authorized capital is \$100,000.

Little Rock—Furniture.—Incorporated: J. D. Hill Furniture Co., capital stock \$16,000, with W. W. Webb, president; J. D. Hill, vice-president, and J. L. Hawkins, secretary.

Little Rock—Flour Mill and Elevator.—T. H. Bunch will expend about \$6000 to improve the flour mill and elevator plant reported last week as purchased by him. The new machinery needed has been purchased. Product will be 6000 barrels of meal daily and 2000 100-pound bags of chop. E. L. Farmer is in charge.

Little Rock—Mercantile.—W. H. Booth Company has been incorporated with capital stock of \$50,000; Wm. H. Booth, president; John W. Wade, vice-president, and Peter W. Patterson, secretary.

Seurcy—Telephone System.—Chartered: Ozark & Ceeil Telephone Co., with capital stock of \$500, for the purpose of building and operating a telephone system. W. M. Jones is president; W. G. Stockton, vice-president, and J. C. Williams, secretary.

Tamo—Cotton Gin.—B. L. Goffo & Son have let contract for installation of cotton ginneries to cost \$3500.

FLORIDA.

Clear Water—Water-works.—J. N. McClung has received franchise for construction of water-works.

De Soto County—Turpentine Plant.—Nor Bros. and Huber & Stokes of Moultrie, Ga., have purchased 18,000 acres of timber lands in De Soto county for \$44,000, and propose manufacturing turpentine and cutting timber.

Flowery Branch—Fertilizer Plant.—Flowery Branch Fertilizer Co. has been incorporated, with capital of \$5000 and privilege of increase to \$50,000, by W. W. Cooper, H. J. Cooper and J. B. Pierce. They are now erecting a fertilizer plant in accordance with previous announcements.

Kathleen—Saw-mill.—Reports state that Strickland & Roberts will build a saw-mill to cost \$100,000.

Freeport—Naval Stores, etc.—J. J. McCaskill, J. J. McCaskill, Jr., R. E. McCaskill and Nimrod McGuire have incorporated the J. J. McCaskill Co., with a capital stock of \$150,000, to manufacture naval stores, etc.

Hastings—Land Development.—The Model Land Co. has purchased 150 acres of land, which will be developed as site for a new town. J. Colee has been employed as civil engineer in charge.

Manatee—Palmetto Ice & Power Co., referred to last week, will remove its ice-making plant from Palmetto to Manatee and add cold-storage rooms for meats, fruits and vegetables. Capital stock will be increased to \$30,000. The ice-storage rooms at Palmetto will be continued.

Jacksonville—Automobiles and Gas Engines.—Hugh Partridge, M. C. Hutton and Albert Jenkins have incorporated the Florida Automobile & Acetylene Gas Co., with capital stock of \$25,000, to manufacture and deal in automobiles and gas engines.

Miami—Packing Plant.—Chartered: East Coast Packing Co., for the purpose of growing and packing all kinds of farm products. The authorized capital is \$100,000; Thos. J. Peters, William H. Peters, William M. Brown, Chas. H. Garthside and W. R. Anno, incorporators.

Tallahassee—Agricultural Developments.—The Florida Development Co. has been incorporated, with capital stock of \$1,500,000, to develop agricultural lands. W. M. G. Stewart of New Orleans is president; J. T. Walls of Tallahassee, general manager, and Wm. J. Lawes of New Orleans, secretary. Offices in Co-operative Business Men's League Building.

Tampa—Municipal Improvements.—City council has decided to call an election on the issuance of \$15,000 in bonds for a garbage crematory, \$10,000 for a city hospital and \$215,000 for street paving, sewer extension and other public improvements. Reference to crematory was made last week. Address The Mayor.

Tampa—Garbage Crematory.—The city council has accepted bid of the Dacarie Company of Minneapolis, Minn., at \$15,700 for the

construction of the municipal garbage crematory referred to in foregoing item.

GEORGIA.

Atlanta—Paper Mill.—The Southern Paper Mills, 16 Ridge avenue, will install equipment within sixty days for manufacturing boxboard and utilizing material that has heretofore been a waste.

Dalton—Chair Factory.—Duane Chair Co. will erect additional building and install new machinery.

Dalton—Ice Plant.—The establishment of an ice factory is talked of, and the Farm Lumber Co. is mentioned in connection with the enterprise.

Harlem—Cotton oil Mill.—Harlem Gin & Mill Co. contemplates building a five-ton cottonseed-oil mill.

Macon—Sewerage System, etc.—The city is giving notice that at the regular municipal election on December 8 a vote will be taken on issuing \$60,000 in bonds, \$40,000 to be used for building a sewer system in newly-annexed territory and \$20,000 for public building. Address The Mayor.

Sandersville—Electric-light and Water Plant.—The city has closed contract with Nisbet Wingfield, civil engineer, Augusta, Ga., for the construction of the proposed water-works and electric-light plant at Sandersville. Preliminary surveys are now being made.

Wahoo—Corn and Flour Mill.—M. H. Gillstrap, lately reported as to build flour mill, will not install flouring equipment until next summer. Corn mill has been installed. About \$3000 is invested.

Waycross—Water-works.—The city has decided to establish its water-works in a new location and about \$7000 will be expended. Address The Mayor.

KENTUCKY.

Bardstown—Water-works.—The city has voted the issuance of \$24,000 in bonds for construction of the proposed water-works. Address The Mayor.

Carlisle—Water-works.—The city has voted affirmatively on the proposed issuance of \$25,000 in bonds to build water-works reported recently. Address The Mayor.

Danville—Electric-light Plant.—The city council has ordered plans and specifications for its proposed electric-light plant, and bids will be invited as soon as plans have been approved. Plant is to have capacity of fifty 200-candle-power arc and 1600 to 2000 16-candle-power incandescent lamps, with steam plant, power-house, etc. City may own the plant or may grant franchise to private company. The estimated cost is \$30,000. John C. Boggs is chairman of committee.

Danville—Water-works.—The city has voted \$20,000 in bonds for improving water-works, including construction of dam and filtering apparatus with daily capacity of 500,000 gallons. Address The Mayor.

Flatgap—Coal and Iron Mining.—C. W. Harris, W. R. Harris and others have incorporated the Wise Coal & Iron Co., with capital stock of \$25,000, for mining coal and iron.

Hall—Lumber Company.—George C. Fields and associates have organized the Swiss-Fields Lumber Co., with capital stock of \$20,000.

Hall—Gas and Oil Wells.—Pauley-Williamson Oil & Gas Co. has been organized, with a capital stock of \$40,000, by Hiram Williamson and others to develop oil fields.

Harrodsburg—Lead and Zinc Mining.—Chinn Mineral Co., incorporated in September, has been organized, with capital stock of \$500,000, to develop lead, zinc and other mineral properties, with J. C. Van Pelt, secretary. W. Allen of New York is engineer in charge, and Prof. J. F. Elsom of New Albany, Ind., is chemist. Address the latter regarding machinery.

Hindman—Bakery.—John Davidson and others have organized the Hindman Bakery, with capital of \$2000.

Jackson—Street Improvements.—The city has voted an issuance of bonds for street improvements. Address The Mayor.

Josie—Coal and Iron Mines.—Wesley Breeding and associates have organized the Line Fork Coal & Iron Co. to develop coal and iron properties; capital stock is \$45,000.

Lexington—Rule Company.—John R. Allen, W. G. McDowell and Louis Zinser have incorporated the Union Standard Rule & Level Co., with capital stock of \$10,000.

Louisville—Woodworking Plant.—Ahrens & Ott Manufacturing Co. contemplates removing its Detroit woodworking plant to Louisville.

Louisville—Paint Factory.—Louisville Paint Manufacturing Co., reported last month with \$25,000 capital, will manufacture roof, structural-iron and bridge paints. All the necessary machinery has been purchased. Offices at 1110 West Main street.

Louisville—Fire-escape Factory.—Triplett Fire-Escape Co. has been incorporated, with capital stock of \$50,000, to manufacture a new fire-escape. J. E. Gowdy is president; James E. Triplett, vice-president, and J. R. Davis, secretary-treasurer. The officers are all of Campbellsville, Ky., but the company's headquarters will be in Louisville.

Louisville—Seed Company.—James G. Tinsley of Richmond, Va.; T. G. Tinsley of Knoxville, Tenn.; A. D. Ledoux of New York, L. S. Merimee, T. H. Merimee and Edwin C. Foltz have incorporated the Southern Seed Co., with a capital stock of \$50,000.

Louisville—Natural Gas Supply.—Calor Oil & Gas Co. has received franchise to lay mains for the purpose of distributing natural gas. The company is controlled by the Louisville Gas Co., of which A. Hite Barret is chief engineer.

Oldham—Telephone Company.—Joseph Saur, R. B. Blakemore and R. B. Cassidy have incorporated the Oldham Telephone Co., with a capital stock of \$10,000.

Owensboro—Water-works.—The city has accepted plans and specifications for the construction of its proposed water-works, and sealed proposals will be received until November 24. About 6,000,000 gallons every twenty-four hours is the capacity of the pumping engines. John P. Force, 37 Dispatch-Butler Block, Columbus, Ohio, is the consulting engineer, where plans are on file; also on file with City Engineer E. B. Shifley.*

Smithsboro—Coal and Coke Plant.—Wm. Haynes and associates have organized the Knott Coal & Coke Co., with capital stock of \$60,000, to develop coal mines and manufacture coke.

Tadella—Oil Wells.—John H. Leslie and associates have organized the Tadella Oil Co., with capital stock of \$16,000, to drill oil wells.

Williamstown—Electric-light Plant.—It is rumored that the city will soon investigate the question of establishing an electric-light plant. Address The Mayor.

LOUISIANA.

Amite City—Road Construction.—J. H. Butler of Mississippi has received contract for the construction of 200 miles of public roads at \$100 per mile of 16-foot roads and \$120 per mile of 20-foot roads.

Baton-Rouge—Overall Factory.—L. Diamond will establish an overall factory.

Donalsonville—Canning Plant.—Donaldsonville Canning Co. will increase capital from \$10,000 to \$25,000 and enlarge its operations, including the installation of equipment to can sugar syrup and the cultivation of 100 acres of land in tomatoes.

Eunice—Rice Mill.—Louis Mayer and associates are organizing a company to build the Pauters' Rice Mill.

Lafayette—Street Improvements.—J. D. Massicot has received contract for the construction of concrete sidewalk about one and one-half miles long and six feet in width; to cost about \$10,000.

Leesville—Lumber Mills.—Nona Mills Co. will increase capital stock from \$200,000 to \$400,000.

Lake Charles—Fire-protection Equipment. The city council will arrange to organize and equip a fire department. Address The Mayor.

Minden—Water-works.—The city has authorized an election to vote on issuing \$30,000 in bonds for the construction of the water-works system that has been talked of. Address The Mayor.

New Orleans—Alcohol Factory.—Southern States Alcohol Manufacturing Co., which organized recently, has arranged to begin work on construction of a \$200,000 plant to manufacture alcohol under new processes said to materially reduce the cost. A. A. Cuneo is president; A. D. Focantia, vice-president, both of New York, and Robert Palestine of New Orleans, consulting engineer in charge.

New Orleans—Water Supply.—It is stated that a company will be incorporated, with capital stock of \$1,500,000, to pump water by

pipe line from Stafford Spring at Vicksburg, Miss., to New Orleans, a distance of 160 miles. Bids for construction work, costing about \$600,000, are reported to have been accepted. Henry Mordecai is president; T. J. Henderson, vice-president, and John E. Hollingsworth, secretary.

New Orleans—Swamp-land Developments. E. L. Dwyer, formerly of New York; Mr. Van Maanen of Belgium, Mr. Davis of London, E. T. Manning and N. A. Baker are about concluding the purchase of 110,000 acres of swamp land in St. Bernard and Plaquemine parishes. They intend to drain the tract and establish colonies for the cultivation of sugar, rice and other agricultural products. E. T. Manning of New Orleans can probably best be addressed.

New Orleans—Manufacturing, etc.—Lake Borgne Realty Co. will be organized, with a capital stock of \$750,000, to establish a new town at junction of the Lake Borgne canal and the Mississippi river, surveys having already been completed. Swamp lands will be drained and devoted to rice and sugar culture, and manufacturing plants will be located, a sash and blind factory and sea food cannery having already been arranged for. Wm. P. Curtis, E. H. Farrar, Wm. P. Richardson, S. P. Walmsley, W. P. Ross and others are the organizers.

New Orleans—Fruit and Sea-food Cannery. Ostrich Planting & Canning Co. has erected buildings on Quarantine bay, and will install machinery for canning oysters, crabs, tropical fruits, etc.; Alfred S. Coward, secretary, 1221 Baronne street.*

New Orleans—Fuel Briquette Plant.—Willis J. Roussel proposes organizing company to establish a plant for utilizing garbage and other refuse, the principal product to be fuel briquettes.

Oak Ridge—Water-works.—The construction of a system of water-works is contemplated by the town, and contractors are asked to submit estimates and b'ds. Address The Town Clerk.*

MARYLAND.

Baltimore—Manufacturing Plant.—It is stated that C. A. and A. U. Davis are interested in remodeling the old Front Street Theater to make it suitable for use as a manufacturing plant, but the character of product is not mentioned.

Baltimore—Coal and Iron.—Chartered: Findley Coal & Iron Co., by William D. Allen, H. Rollins Bradshaw, Wm. A. Hammond, Ward B. Coe and Edward M. Hammond, with an authorized capital stock of \$10,000.

Baltimore—Realty.—Incorporated: Carey Realty Co., by Martin O. Benjamin, Harry W. Sutcliffe, Clarence B. Taylor, Jacob Katz and William T. Larkin. The capital stock is \$10,000.

Baltimore—Flint and Spar Mining.—The Patapsco Flint & Spar Co., for mining and grinding feldspar, flint and other minerals, has been incorporated by W. Henry Harlison, Albert H. Hock, Charles H. Knapp, Wm. B. Fink and Paul G. Rahe. The authorized capital stock is \$150,000.

Baltimore—Real Estate.—The Greenwald Real Estate Co. has been incorporated by Julius Greenwald, Solomon Greenwald, Isaac Greenwald, Augustus Paper and Samuel J. Harman, with an authorized capital stock of \$27,000.

Baltimore—Parquetry, etc.—J. Summerfield Smith Co. has been incorporated by John Summerfield Smith, Daniel B. O'Keefe and S. H. Cavin of Baltimore and Philadelphia parties to deal in parquetry, flooring, etc. Capital is \$2000.

Cumberland—Improvement Company.—Jas. T. Johnson, J. H. Holzshu, Henry J. Glick and others have incorporated the West Side Improvement Co., with capital stock of \$10,000.

MISSISSIPPI.

Jackson—Lumber Mill.—Empire Lumber Co. will increase capital stock from \$25,000 to \$50,000.

McComb City—Mercantile.—W. P. Mills, W. A. Guy, J. L. Inman and others have incorporated the Mills-Guy Company with capital stock of \$30,000.

Vicksburg—Saw-mills.—L. Burns, Jr., and J. J. Lum of Vicksburg have sold 35,000 acres of timber lands at \$200,000 to St. Louis capitalists, who will build saw-mills to cut the timber and afterwards dispose of the land in small tracts for farms.

MISSOURI.

Carthage—Coal Mines.—T. M. Mooneyham, Robert O'Brien, William Emery, J. T. McAndrews, Olaf Peterson, J. G. Armitage and others have organized a company for mining a 10-foot vein of coal recently discovered near Carthage.

Columbia—Steam Laundry.—F. P. Miller and J. S. Wharton will establish a steam laundry to be operated by electricity. Plans are being prepared for a brick building 40x80 feet.

Joplin—Zinc Mines.—Olympia Zinc Co., reported last month under St. Louis, Mo., as increasing capital from \$40,000 to \$50,000, will establish a plant at Joplin for mining zinc. C. D. Pratt is president.

Kansas City—Bottling and Cold storage Plant.—P. Schoenhofen Brewing Co. of Chicago, Ill., has let contract for branch plant at Kansas City, to include bottling works, cold-storage house, office, barns and shed, the buildings to cost \$30,000. Huckle & Sexton of Kansas City have the building contract.

Kansas City—Telephone System.—Western Independent Telephone Co., now constructing system, will increase capital stock from \$50,000 to \$1,500,000. Offices in Kansas City Home Telegraph Building.

St. Louis—Steam Laundry.—John A. Hurster, Rice N. Emerson and Catherine M. Emerson have incorporated the Anchor Steam Laundry Co., with capital stock of \$100,000.

St. Louis—Iron Works.—Stupp Bros. Iron Co. will build iron works.

St. Louis—Land Developments.—Missouri Pacific Immigration Bureau & South & West Realty Co. will be incorporated for the purpose of developing the resources of the company tributary to the Missouri Pacific and Iron Mountain railways. F. J. Gould, St. Louis; H. C. Howell, Pine Bluff, Ark.; Nat. Williams, Little Rock, Ark.; W. L. Hartman, Pueblo, Col.; J. E. Wilson, Kansas City, Mo.; O. L. Johnson, Chicago, Ill., and others will be the directors.

St. Louis—Manufacturing.—Clark Hutchins, Edwin M. Hutchins, F. A. Siebert, Geo. H. Fyler and others have incorporated the Hutchins & Sons Manufacturing Co.

St. Louis—Asphalt Roofing Plant.—Barrett Manufacturing Co. will rebuild its coal tar and asphalt roofing material plant, which was damaged by fire last week. New building will be 90x60 feet. James Black Masonry & Contract Co. is the engineer in charge.

St. Louis—Laundry.—D. L. Parrish, J. Arthur Anderson and A. C. Parrish have incorporated Dunks L. Parrish's Laundry Corporation, with capital stock of \$40,000.

St. Louis—Shoe-machinery Works.—Chartered: Champion Shoe Machinery Co., by James B. Dobyne, George A. Dobyne and George L. Corcoran, to manufacture and deal in shoe machinery; capital stock, full paid, \$50,000. Offices at 3337 Franklin street.

St. Louis—Automobile Company.—Jordan W. Lambert, Louis Spindler and Samuel B. McPheeers have incorporated the Ford Automobile Co.

NORTH CAROLINA.

Albemarle—Mercantile.—S. H. Hearne, G. F. Almond, H. B. Wilkerson and others have incorporated the Stanly Supply Co., with a capital stock of \$20,000.

Asheville—Mercantile.—Marx Dry Goods Co. has been incorporated, with an authorized capital of \$25,000, by Isaac Marx of Asheville, J. W. Klaus of Richmond, Va., and Edward Eigenbrun of Petersburg, Va.

Asheville—Telephone System.—C. R. Craig, W. S. Proctor and Frank Carter of Asheville, W. T. Gentry and Hunt Chipley of Atlanta, Ga., have incorporated the Asheville Telephone & Telegraph Co. with authorized capital of \$300,000, of which \$135,000 has been subscribed. Company is to establish telephone and telegraph systems.

Burlington—Corn and Flour Mill.—Hico Milling Co., reported incorporated last week with \$27,000 capital, will erect building 36x42 feet, forty feet high, and install machinery for a daily output of 100 barrels of flour and 20 bushels of corn.*

Catawba—Gold Mine.—Rumors state that Henry Grooms will develop gold-bearing property.

Charlotte—Biscuit Factory.—A. R. Newcomb of Charlotte and W. D. Sprague of Black Mountain, N. C., will establish a biscuit factory.

Charlotte—Cotton Mill.—Continental Manufacturing Co., incorporated last month with \$150,000 capital, acquired the old Victor Cotton Mills, and has ordered new machinery to put the plant in modern condition; 12,672 ring spindles are being operated.

Charlotte—Gold Mine.—Mrs. H. W. Clarke has purchased the Simpson gold-mining property, comprising about 500 acres of land in Clear Creek township.

Cleveland—Monazite Mines.—The Monazite Co. is installing machinery to double its output of about 4000 pounds daily.

Concord—Mines, etc.—Cabarrus Land, Lumber & Mining Co., reported incorporated

last month with \$15,000 capital, has organized with J. P. Allison, president, and J. L. Peck, secretary-treasurer. It is already operating several saw-mills on timber land lately purchased, and will also develop mining property.

Dunn—Vehicle Factory.—J. H. Duke of Wilson, N. C.; J. L. Aldridge and C. C. Aldridge of La Grange, N. C., will establish a carriage and buggy factory at Dunn.

Greensboro—Ice Plant, etc.—Incorporated: Guilford Ice & Fuel Co., with an authorized capital stock of \$100,000, to manufacture ice, deal in coal and wood, etc. Joseph Weller, Cincinnati, Ohio; James R. Donnell and J. H. Dixon, Greensboro, are the corporators.

Kernersville—Nursery.—J. Van Lindley of Greensboro, N. C., has purchased 400 acres of land near Kernersville at about \$8000 and will establish a nursery.

Leaksville—Dyeing Plant.—Leaksville Cotton Mills will build a large dyehouse.

Lewiston—Saw-mills.—Roquist Manufacturing Co. has been incorporated by J. R. Martin of Lewiston, Francis D. Winston of Windsor, N. C., and J. P. Boyle of Hamilton, N. C., to operate saw-mills, etc. Capital stock is \$25,000.

Louisburg—Sewerage and Water-works.—The city will vote November 12 on the construction of water-works and sewerage system. Address The Mayor.

Louisburg—Wagon Factory.—Louisburg Wagon Manufacturing Co. has been organized by Geo. H. Cooper and R. C. Perry to establish wagon factory. They will erect main building 40x150 feet and two others 40x70 and 24x48 feet, and install machinery for manufacturing four two-horse wagons per day. H. C. Taylor will be general manager.

Morganton—Water-works.—H. I. Harriman of Boston, Mass., and H. O. Pressy of Washington, D. C., have secured franchise for the construction of water-works at Morganton.

Nashville—Lumber Plant.—H. Powell Lumber Co. has been incorporated by H. Powell of Norfolk, Va.; T. H. Graham of Spring Hope, N. C., and E. B. Graham of Nashville to operate lumber plant. Capital stock is \$25,000.

Washington—Mercantile.—Farmer T. Phillips, Alexander H. Phillips and J. Wright have incorporated the Phillips & Wright Company with capital stock of \$25,000.

Wilmington—Street Paving.—Contract mentioned last week as received by the Coal, Cement & Supply Co. was not confirmed, and new b'ds are to be opened November 7. About 600 square yards of vitrified brick paving is involved, and about \$10,000 is to be expended.

Wilmington—Machine Works.—Cape Fear Machine Works, reported incorporated last week with \$100,000 capital, will open bids November 21 for erection of buildings for its plant. Plans and specifications are now on file.

SOUTH CAROLINA.

Camden—Implement Works.—Reed & Zumpf Harvesting Machine Works will be the title of company reported last week as to be organized for manufacturing an adjustable horse hay rake. A building 40x150 feet will be erected and equipped with machinery, about \$50,000 to be invested.*

Charleston—Construction Company.—Simons-Myrant Construction Co. has been incorporated, with capital stock of \$25,000; F. L. Ford, president; J. A. Heets, vice-president, and S. Louis Simon, secretary.

Columbia—Barrel Factory.—Chartered: Unique Drum & Package Co., which will put on the market a patent barrel; capital stock \$90,000. John L. Sheppard, C. D. Anderson and J. B. Reeves are the corporators.

Cross Hill—Gold Mines.—P. H. McGowan of Spartanburg, S. C., and Bryson Nicholls of Boston, Mass., are reported as contemplating the development of gold mines near Cross Hill.

Gray Court—Quarry.—Chartered: Entrekin Quarry Co., capitalized at \$5000, by D. J. Entrekin and L. C. Dorroh.

Greenville—Drugs.—Earle Drug Concern has been incorporated, with capital stock of \$10,000, by T. Earle, G. H. Mayhun and J. M. Jordan.

Liberty—Cotton Mill.—Calumet Manufacturing Co., reported incorporated last week with \$50,000 capital to establish yarn mill, will build a much larger plant than at first proposed. Address care H. L. Clayton.

Newberry—Cotton Mill.—Molohon Manufacturing Co., previously reported as to add 14,000 spindles and 300 looms, is adding 23,000 spindles, instead of the number at first mentioned. Contracts have been awarded for buildings, which are now in process of construction, and for the machinery.

Spartanburg—Builders' supplies Factory.—Incorporated: Piedmont Builders' Supply Co., capitalized at \$20,000, with D. W. Alderman of Acolu, S. C., president, and N. C. McDowell of Spartanburg, secretary and treasurer, to manufacture widow sashes, blinds and other supplies for builders.

Sumter—Lumber Company.—Chartered: John H. Sizer Lumber Co., capitalized at \$20,000, the officers being Fred H. Sterner, president, and John H. Sizer, secretary and treasurer.

TENNESSEE.

Bon Air—Iron Furnace, etc.—Bon Air Coal & Iron Co. will remodel and equip with modern machinery the old Warner iron furnace, and will open new coal shafts to produce about 1500 tons of coal daily. General offices at Nashville, Tenn.

Bristol—Foundry and Machine Shop.—The Dixie Machine Works has purchased site for the erection of new plant. Foundry, machine, blacksmith and pattern shops will be built and equipped for manufacturing and repairing machinery of all kinds.

Bristol—Iron Furnace.—Virginia Iron, Coal & Coke Co. is reported as to expend \$50,000 for making extensive repairs to Bristol furnace.

Coalfield—Coal Mining.—H. B. Bowling Coal Co., lately mentioned, has let contract for installation of electric plant for cutting and hauling coal, about \$10,000 to be invested. Electricity will also be used for pumping and ventilating. A duplicate plant will be installed next spring.

Crab Orchard—Saw-mill.—The Tennessee Coal & Lumber Co., which recently purchased 8000 acres of timber land, will build a saw-mill to cut 30,000 feet daily. C. H. Sisson is manager.

Crossville—Coal and Coke Plant.—National Coal & Coke Co. has been incorporated, with capital stock of \$250,000, to develop a \$30,000 tract of coal land near Crossville. W. M. Nixon, M. M. Allison, George W. Myers, Henry C. Ewing, Wm. J. Nixon and others, all of Nashville, are the incorporators.

Ducktown—Copper Furnaces.—The Tennessee Copper Co. will build three additional furnaces, erect a 100-foot addition to its power-house and make other improvements. It is rumored that the installation of a sulphuric-acid plant is also contemplated.

Huntington—Cotton Gin.—Watson Cotton Co. will rebuild its cotton gin recently destroyed by fire, installing a two-stand equipment. P. J. Dennison of Lexington, Tenn., is the engineer in charge.

Knoxville—Slate Quarries.—Knoxville Slate Co., recently chartered with \$50,000 capital, is about to open slate quarries on 6000 acres of land which have been purchased. W. D. Hamilton is president; Thomas R. Price, vice-president; John M. Brooks, secretary, and Joseph P. Jut, treasurer.

Lawrenceburg—Oil Wells.—Burt Paxton of Montpelier, Ind., will drill for oil near Lawrenceburg.

Linden—Lumber Company.—W. J. Richardson, A. H. Bunch, P. Caldwell, C. T. Esley and others have incorporated the W. J. Richardson Lumber Co., with capital stock of \$10,000.

Memphis—Land Company.—W. K. Burton, W. W. Faris, Morgan Jolly and others have incorporated the Central Land Co., with capital stock of \$35,000.

Memphis—Brick Works.—M. H. Johnson, G. C. Bennett, S. M. Apperson, A. S. Caldwell and Bolton Smith have incorporated the Tennessee Granite Brick Co. to manufacture plain and ornamental bricks and sandstone. The capital stock is \$15,000.

Murfreesboro—Flour Mill.—Belmont Mills, recently destroyed by fire, will be rebuilt.

Nashville—Railway Ties.—John B. Ransom, Walter Keith, John W. Love, Hamilton Love and J. E. Isbell have incorporated the Nashville Tie Co., to deal in railway ties. Capital stock is \$25,000.

Nashville—Storage and Transfer.—E. M. Bond, J. P. Hamilton, Leroy McGregor and associates have incorporated the Bond & Hamilton Transfer & Storage Co. with capital of \$3000.

Nashville—Iron Foundry.—Union Machine Co., mentioned last week, will erect a new foundry building 60x100 feet, and has made all arrangements for materials, etc.

Newport—Tannery.—The Unaca Tannery will rebuild that portion of its plant damaged by fire during the week.

Oliver Springs—Coal Mines.—The Wind Rock Coal Co. will open new coal mines, requiring the erection of an incline about one mile long.

Ozone—Coal Mine.—Dispatches state that the Len Coal Co. will be organized by St.

Louis capitalists to develop coal mines near Ozone.

Sparta—Steam Laundry.—T. D. Pearson contemplates establishing a steam laundry for town of 1500 inhabitants.*

TEXAS.

Abilene—Cotton-oil Refinery, Soap Plant, etc.—Members of the Abilene Cotton Oil Co., lately reported as to build cotton-oil refinery, have begun construction of the plant, intending to produce miners', cooking, salad and edible oils, and will also have in connection a compound lard and soap plant. This plant will be owned and operated by a separate refining company to be organized with a capital of \$50,000. A portion of the machinery has been purchased. H. J. J. Thiesen of Sherman, Texas, is architect and superintendent in charge.*

Atlanta—Cotton Gin.—J. J. Casey will rebuild his cotton gin lately burned at a loss of \$3000; will also install grist mill.*

Beaumont—Rice Mill.—Hinz Rice Milling Co. has made a final decision to rebuild its rice mill lately destroyed by fire; I. N. Cooke, local manager.

Beaumont—Lumber Plant.—Gabriel Lumber Co. of Des Moines, Iowa, contemplates building lumber plant in Texas, and is investigating timber lands in the vicinity of Beaumont.

Brackett—Irrigation Plant.—Reports state that A. B. Cox will build an irrigation plant.

Calvert—Cannery and Feed Mill.—It is proposed to establish a cannery or possibly a cannery and feed mill, and local investors will furnish from \$5000 to \$10,000 of the capital. It is proposed to interest an experienced man to act as manager. H. L. Stricker can give information.

Columbus—Water-power Development.—It is reported that John A. Cook and Senly B. Moody of La Grange, Ill., will have engineers make surveys to determine the feasibility of developing the water-power of the Colorado river at Columbus. If a favorable report is received it is proposed to organize a company, secure privileges and build power plant.

Dallas—Insecticide Device.—Texas Boll-Weevil Machine Co. has been incorporated, with a capital stock of \$10,000, to introduce a device for destroying boll-weevils; J. N. Maxwell, J. S. Deak and A. G. Farrington, incorporators.

Dayton—Oil Wells.—Alexander W. Maas of New Orleans, La.; R. C. Gray and Charles Wilson of Houston, Texas, and associates have begun to drill oil wells near Dayton.

Fort Worth—Lumber Plant.—Cicero Smith Lumber Co., reported chartered last week with \$50,000 capital, succeeds S. P. Smith Lumber Co., and has an established plant. J. L. Johnson is secretary and treasurer.

Galveston—Building stone Works.—South Texas Manufacturing Co., recently incorporated, will establish plant for manufacturing hollow concrete building stone and ornaments, about \$10,000 to be invested. W. D. Hockenridge, 202 Strand, is manager.

Houston—Water-works.—L. G. McNair of St. Louis, Mo., and J. T. Lynn of Detroit, Mich., contemplate purchasing the Houston Water-Works Co.'s plant and expending several hundred thousand dollars for improvements, providing they secure suitable franchise from the city.

Houston—Gaslighting Plant.—L. G. McNair of St. Louis and associates have about closed negotiations to purchase the Houston Gas-Light Co. and plant. It is proposed to expend \$200,000 to remodel equipment, and possibly a natural gas field near Houston will be developed and the gas piped to the city.

Houston—Electric Plant.—Houston Light & Power Co. contemplates making extensive improvements to its plant, or possibly the property will be disposed of by sale in the near future.

Lancaster—Cotton Gin.—White & Co. will rebuild their cotton gin, which was burned at a loss of \$10,000.

Livingston—Saw-mill.—W. H. Knox & Son will build a large saw-mill.

Lufkin—Fruit Orchard.—J. F. Davis, D. A. Singleton, R. D. Collins and W. R. McMullen have incorporated the Lufkin Fruit & Orange Co., with capital stock of \$10,000.

Marlin—Brick Works.—A. L. Bronson has decided to build the brick works reported last week as contemplated, and will invest about \$10,000. The plant will produce daily 20,000 common brick, fire-brick and high-class buff brick.

Nacogdoches Lumber Plant.—The Texas Lumber Co. is buying land and timber properties, and intends to build a band mill to cut about 20,000 feet daily of oak, gum and hickory. T. J. Williams is president.*

San Angelo—Machine Shops, etc.—San Angelo Manufacturing Co., incorporated recently, contemplates adding foundry equipment to its machine shop and vehicle works. John Findlater, Jr., J. R. Copeland and Geo. Richardson were the incorporators.

San Antonio—Ice-cream Factory.—Chartered: Reigler Ice Cream Co., capital stock \$10,000, for manufacturing ice cream; incorporators, H. R. Reigler, Isidore Furtner and Ed Hanich.

Texarkana—Publishing.—Incorporated: Sentinel Publishing Co., capital \$150, by Horace W. Vaughan, W. A. Kelsey and J. W. Bibbey.

Velasco—Oar Factory.—F. P. Wells and Charles F. Wells of Devall's Bluff, Ark., contemplate establishing a large oar factory at Velasco.

Wichita Falls—Implements.—W. A. McCutcheon, G. H. Jackson and J. W. Anderson have incorporated the Wichita Falls Implement Co.

VIRGINIA.

Berkley—Shipyards.—W. E. Thomas Corporation, reported last week as chartered with \$20,000 capital, will operate shipyard. W. E. Thomas is general manager.

Danville—Tobacco Factory.—John N. Wyllie & Co. will rebuild their tobacco factory, burned at a loss of \$40,000.

Deweys—Telephone System.—Deweys Telephone Co. has been organized, with \$6000 capital, to construct a telephone line from Dewey to Glamorgan.

Floyd—Arsenic Mines.—United States Arsenic Co., reported last spring as to develop arsenic properties in Floyd county, has installed temporary machinery and is now transporting to the mines its equipment for roasting the ore and preparing it for market. The company is capitalized at \$500,000. C. R. Brinton, vice-president of Pittsburg Security & Guarantee Co., Pittsburg, Pa., is president of the arsenic company.

Fredericksburg—Sulphur Deposits.—Dispatches report that E. F. Sommers has found sulphur deposits on his farm.

Hampton—Street Improvements.—The city has completed arrangements for its proposed \$25,000 bond issue, which is to be expended for street improvements. Address The Mayor.

Norfolk—Barrel Factories.—Farmers' Manufacturing Co., reported last week as increasing capital from \$100,000 to \$250,000, will use the additional capital to install new machinery in its barrel factory at Norfolk and to establish branch plants in North Carolina.

Norfolk Paper Mill.—The Cotton Oil & Fiber Co. (mentioned last week under Berkley) has decided upon the installation of additional machinery. Cottonseed hulls will be ground up into two products, hull bran for cattle feeding and paper stock for manufacturing paper. Several mills have been leased to work on this fiber for paper.

Norfolk Manufacturing Plant.—Chamber of Commerce is negotiating with C. M. Logue of Philadelphia, Pa., and other Northern capitalists for the establishment of a manufacturing plant, the character of which is not stated.

Richmond—Charcoal Plant.—R. T. Jennings will establish a plant for making charcoal from pine and oak wood.

Roanoke—Brewery.—Virginia Brewing Co. will dismantle its old brewing-house and erect a new structure with increased capacity, of brick and iron, three stories high. About \$20,000 will be expended.

Waverly—Oil Wells.—Walls & Cochran of Columbus, Ohio, have optioned it is reported, 20,000 acres of land, and will invest \$3,000 in machinery to drill for oil. Address care of John P. Fleetwood, Waverly.

Williamsburg—Knitting Mill.—Williamsburg Knitting Mill Co. has voted the proposed increase of capital, lately noted, from \$50,000 to \$80,000 and will enlarge its mill.

WEST VIRGINIA.

Arlton—Sewerage System.—W. B. Rector and associates have applied for franchise to construct sewerage system.

Bluefield—Lumber Plant.—Incorporated: Bluefield Lumber Co., to manufacture building material; capital \$25,000; incorporators, E. L. Bailey, W. G. Offutt, P. J. Kelly, M. H. Kelly and M. G. Bailey.

Cairo—Supplies.—W. H. Greer, M. C. Greer, Richard Wanless and others have incorporated the Greer Supply Co., with capital stock of \$25,000.

Cameron—Glass Factory.—Wetzel Improvement Co. is negotiating for the establishment of a glass factory.

Charleston—Coal Lands.—Bouvier-Jager Coal Land Co. has been incorporated to deal in coal lands and mineral properties; capital

\$288,000; incorporators, S. L. Flournoy, Geo. E. Price, Harrison B. Smith, R. Parke Flournoy and R. S. Spilman.

Elkins—Coal and Coke Plant.—Washington Coal & Coke Co. has announced its intention to increase capital stock from \$2,500,000 to \$5,000,000.

Eskdale (not a postoffice)—Mercantile.—Chartered: A. P. Hudson Company, capital \$10,000, by Albert Young, J. D. Foster, Jr., R. C. Sweet, G. H. Shrewsbury and Pearl R. Grant of Charleston, W. Va.

Hallsville—Coal Mining.—Incorporated: Helena Mining Co., to mine coal and manufacture coke; capital \$50,000; incorporators, C. W. Kelster of Hallsville, T. L. Henritez, Thos. Woodward, J. A. Strother, C. A. De Venny, all of Welch, W. Va. The company will develop 604 acres of coal land. Crockett Bailey is engineer in charge.*

Huntington—Candy Factory.—Eskew-Burkett Candy Co., reported incorporated in August with \$25,000 capital, has leased a three-story building now in course of construction and will install machinery for manufacturing candies.

Huntington—Printing Plant.—Incorporated: Standard Printing & Publishing Co., capital \$10,000, by C. L. Ritter, Frank Ensor, Jr., Fred Roetting, Wm. McCue and E. E. Williams.

Kingwood—Coal Mining, etc.—Incorporated: Hazleton Coal & Coke Co., capital \$200,000, by J. S. Lakin, Parley DeBerry, C. A. Miller of Terra Alta, W. Va.; A. Bliss, P. J. Crogan of Kingwood.

Lewisburg—Scale Works.—Mountain State Scale Specialty Co. has been incorporated to manufacture and deal in scales, by W. E. Nelson, Charles L. Dice, S. A. Scott, John C. Rice and Fred Wallace. Capital stock is \$10,000.

Moundsville—Coal Mines.—Glen Easton Coal & Coke Co. of Wheeling, W. Va., has purchased 131 acres of coal lands near Moundsville for \$7000, and begun to sink shafts for coal.

Parkersburg—Coal Mines.—Chartered: Flat Rock Coal Co., to operate for oil and gas; capital \$50,000; incorporators, Charles S. Sleppy, S. D. Stewart, Parkersburg; M. J. Bergin, E. F. Dorgan, Alfred Pendleton and others of Columbus, Ohio.

Parkersburg—Grocery.—Incorporated: Perkins Grocery Co., capital \$10,000, by Harry D. Perkins, R. L. Perkins, S. Perkins and R. E. Parker of Hinton, W. Va.

Pratt—Coal Mines.—Masters Coal Co. has been incorporated, with capital stock of \$50,000, to mine coal. Wm. Masters, Lewisburg, W. Va.; S. C. Masters, Ansted, W. Va.; S. P. Beck, Minton, W. Va.; J. J. Duffy and L. M. Pratt, Pratt, W. Va., are the incorporators.

Salem—Gas and Oil Wells.—Chartered: Jackson Center Oil & Gas Co., to develop oil and gas property; capital \$10,000; incorporators, J. F. Randolph, S. Broadwater, H. B. McKinley and F. A. Orr.

Williamson—Brick Works.—T. B. Jones, T. J. Elliott and Wm. Bronson of Everett, W. Va., have incorporated the Mingo Brick & Tile Co. to manufacture bricks and tiles. The capital stock is \$25,000.

INDIAN TERRITORY.

Chickashaw—Water-works and Sewerage.—The city will at once make preparations for constructing the water-works and sewerage, for which \$33,000 in bonds was voted several months ago. Address The Mayor.

Tulsa—Water-works.—Geo. W. Bayne of Carthage, Mo., and associates have received franchise for construction of water-works.

OKLAHOMA TERRITORY.

Enid—Creameries.—Oklahoma Creamery Co. has been organized by Minneapolis capitalists to build creameries throughout the Territory. J. H. Evans will be manager, probably locating at Enid.

Enid—Manufacturing.—Currey Manufacturing Co. has been incorporated by John F. Curran, H. H. Watkins and George D. Orner of Enid and E. P. Curry of Caldwell, Kan., with \$50,000 capital stock.

Fort Cobb—Lumber Company.—Francis Beldler of Chicago, Ill.; F. E. Goebel of Verden, O. T., and E. L. Griffin of Nardin, O. T., have incorporated the Caddo Lumber Co., with \$10,000 capital.

Garber—Creamery.—H. M. Brandt will rebuild his creamery lately destroyed by fire, investing about \$7000. A building 24x54 feet will be erected and equipped with machinery to manufacture 3000 pounds of butter daily.*

Hooker—Town Company.—Incorporated: Oklahoma-Oklahoma Town Co., with \$3500 capital, by John J. Murray, Daniel W. Swin, David H. Ireland, George S. Sheffield, A. H.

Cobb and E. J. Albright of Hooker and W. H. Miller of Brule, O. T.

Lawton—Ore-reduction Plant.—Chartered: Pittsburgh Ore Reduction Co., with \$2,000,000 capital stock, by J. E. Jarvis, R. A. Hubbard, F. S. Jones, O. L. Abney and G. W. Broc.

Lawton—Mining.—D. A. Banta and James W. Clarke of South Bend, Kan.; C. W. E. Jennings of Mt. Scott, O. T., and P. Waldron, Jr., of Lawton have incorporated the Bell Proctor Mining Co., with capital stock of \$1,000,000.

Lawton—Water-works.—Girard H. Matthys has prepared plans and specifications for the system of water-works which the city proposes constructing. About \$70,000 is to be expended. Address The Mayor.

Manchester—Drug Company.—Incorporated: Manchester Drug Co., with \$2000 capital, by J. L. Karns of Eldorado, Ill.; Benjamin W. and Elizabeth N. Safford of Manchester.

Mulhall—Mining and Milling.—Oklahoma & Arkansas Mining, Milling & Refining Co. has been incorporated, with capital stock of \$20,000, by W. H. Matthews, A. T. McMillan, Geo. W. Rotterman, William Strunk and others.

Newkirk—Gas Wells.—Newkirk Gas & Mining Co. has increased capital from \$25,000 to \$100,000, and will drill additional wells.

Oklahoma City—Cotton Mill.—It is proposed to organize a \$500,000 stock company to build a cotton mill, South Carolina cotton manufacturers having offered to furnish half the required capital. Grant & McAdams, attorneys, can give information.

Oklahoma City—Novelties.—Southwestern Novelty Co. has been incorporated, with capital stock of \$10,000, by Ruth McDevie, Marita Cox, Annie Roup and Claire Bone.

Oklahoma City—Development Company.—Incorporated: Indianapolis Development Co., capital stock \$50,000, by J. B. Newcomb of Indianapolis, Ind.; J. E. Dunn and C. S. Avery of Oklahoma City.

Oklahoma City—Grain Elevator.—Edward A. Stinson, Samuel A. Morrison and John S. Herriott have incorporated the Stinson-Morrison Grain Elevator Co., with capital stock of \$25,000.

Shawnee—Water-works.—The city will vote this week on the issuance of \$125,000 in bonds for the extension of its water-works. Address The Mayor.

Stillwater—Hardware, etc.—Chartered: Willis Hardware & Improvement Co., capital stock \$10,000, by J. T. Gray, E. Gray and Charles Willis.

BURNED.

Adrian, Ga.—Watkins & Co.'s saw-mill.

Batesburg, S. C.—George Duncan's saw-mill and W. A. Crouch's saw-mill.

Forest City, Fla.—Consumers' Lumber & Veneer Co.'s saw-mill; loss \$3000.

Inglewood, S. C.—Inglewood Mining & Manufacturing Co.'s plant for mining and calcining marl; damaged to extent of \$7500.

James City, N. C.—J. S. Basnight's saw-mill; loss reported at \$20,000.

Kinston, N. C.—D. E. Edwards & Co.'s lumber dry-kiln; loss reported at \$2000.

Moreland, La.—B. F. Pittman's cotton gin.

Newport, Tenn.—The Unaca Tannery.

Ocoee, La.—St. Landry Cotton Oil Co.'s mills damaged to extent of \$3000.

Richmond, Ark.—J. H. Love's cotton gin; loss \$3500.

BUILDING NOTES.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

Alexander, Ark.—Hotel.—P. W. Crawford contemplates building a hotel.

Anson, Texas—Jail.—The county will build a jail. Address County Clerk.

Atlanta, Ga.—Department Store.—It is reported that Asa G. Candler will build a department store on site purchased for \$160,000.

Baltimore, Md.—Residence.—Charles K. Ober will build a residence at Roland Park to cost \$10,000. Plans and specifications have been prepared by Wyant & Nolting.

Baltimore, Md.—Dwelling.—William Byrd Page will build a colonial dwelling in the Green Spring valley after plans by Robert S. Reeschaub of Denver, Col. It is stated that Matthew Atkinson is acting for Mr. Page.

Beaumont, Texas—Hotel.—John B. Goodhue has accepted plans and specifications for the erection of his proposed Crosby Hotel.

Benton, Ark.—School Building.—City con-

templates building a \$10,000 school building. Address The Mayor.

Birmingham, Ala.—Warehouse.—E. C. Bowman will build two-story brick warehouse to cost \$14,000.

Birmingham, Ala.—Store Building.—Mrs. N. A. Tyson will erect three-story brick store building to cost \$17,000.

Blackwell, O. T.—Business Building.—Geo. Willet will erect business building to cost \$50,000, for which plans and specifications are being prepared.

Buena Vista, Ga.—Jail.—Marion county has decided to build a \$5000 jail, and is prepared to consider plans and specifications; Charles W. Lowe, county clerk.

Canyon City, Texas—School.—Canyon City School District will erect a \$12,000 school building.

Chattanooga, Tenn.—Carnegie Library.—Trustees of Carnegie Library have postponed until November 17 the opening of proposals for construction of proposed Carnegie Library building. An appropriation of \$50,000 is available for building and equipping; A. N. Sloan, president of trustees.

Elizabeth City, N. C.—Hotel.—It is rumored that E. F. Aydlett will remodel the Albermarle House at a cost of \$20,000.

Fairmont, W. Va.—Hotel.—Clyde S. Holt and associates have purchased building lots at \$25,000, on which it is reported will be erected either a hotel or theater.

Grady, Ark.—Hotel.—J. T. Hardin will build a hotel.

Greenville, Miss.—Clubhouse.—B. P. O. E. has purchased site at \$300 for erection of clubhouse.

Greenville, Miss.—Clubhouse.—The Olympia Club has purchased site at \$3000 for erection of clubhouse.

Guthrie, O. T.—Depots.—J. B. Baker of Guthrie has contract to build several freight depots between Guthrie and El Reno for the St. Louis, El Reno & Western Railway.

Holly Springs, Miss.—College Building.—North Mississippi College has let contract to J. H. Moseley & Co. of Memphis, Tenn., for construction of three-story addition to cost \$40,000.

Huntington, W. Va.—Postoffice Building.—Plans by Parker & Thomas, architects, Baltimore, Md., have been selected by the Treasury Department for erection of proposed postoffice and courthouse to cost \$125,000. James Knox Taylor, supervising architect, Treasury Department, Washington, D. C., can be addressed.

Jackson, Tenn.—Hotel.—Ardmore Hotel Co., reported incorporated last month with \$60,000 capital, will remodel and improve present building. Geo. H. Brandon is president.

Kansas City, Mo.—Church.—Prospect Avenue Christian Church will build edifice to cost \$114,000; Rev. Geo. H. Combs, pastor.

Kingwood, W. Va.—Armory and Theater.—Kingwood Armory, reported incorporated last month, has let contract to Mr. Dean of Keyser, W. Va., for construction of armory and theater 48x90 feet, of wood, to cost \$2000. Stage and dressing-rooms will be equipped. Hot-air heating plant will be installed.

Knoxville, Tenn.—Hotel.—Hotel Cumberland Co. will double its hotel building.

Lexington, Va.—Clubhouse.—Southern Gamma Alpha Fraternity of Washington and Lee University will build a chapter house to cost \$9000.

Lexington, Ky.—Dwellings.—Aylesford Land Co. has let contract to the Combs Lumber Co. for the erection of six dwellings to cost about \$500 each. This does not include mantels or gms and electric fixtures.

Louisville, Ky.—Warehouse.—International Harvester Co., 208 First street, will build warehouse and office building.

Louisville, Ky.—Club Building.—The Dennis Club, Charles T. Carter, secretary, will expend \$10,000 to remodel and improve its building.

Little Rock, Ark.—Association Building.—Y. M. C. A. expects to let contract in January for erection of its proposed building to cost about \$25,000. Address care of R. E. Walt, director.

Little Rock, Ark.—Hotel.—Chicago capitalists contemplate building a hotel in Little Rock. Geo. R. Mann of Little Rock, architect, may possibly be interested.

Live Oak, Fla.—Courthouse.—County commissioners have accepted plans by B. B. Smith of Montgomery, Ala., for construction of the proposed \$40,000 courthouse, and bids will be asked on construction, to be opened December 7.

New Orleans, La.—School Building.—St. Joseph's R. C. Church will build a school structure to cost \$70,000, plans for which have

been completed by Toledano & Wogan, 724 Macneva Building.

Norfolk, Va.—Church.—First Lutheran Church will build edifice to replace structure recently burned.

Pensacola, Fla.—Hotel.—Wm. Briggs of Chicago, Ill., will build a hotel. He is registered at the Lewis House, Pensacola.

Pine Bluff, Ark.—Association Building.—Y. M. C. A. will spend about \$5000 to improve its building.

Prescott, Ark.—Postoffice Building.—Chartered: Prescott Postoffice Building Co., capital stock \$2500, to erect a postoffice building. Thomas C. McRae is president; A. M. Denman, vice-president; J. M. Pittman, secretary.

Scbrook, Texas—Hotel.—C. W. Rutgers of New Orleans, La., will build a 40-room hotel at Sebrook.

Smithville, Ark.—Hotel.—A hotel will be built and probably the Sisk Mining Co. can give information.

Waxahachie, Texas—Library Building.—Sims Library and Lyceum has awarded contract for erection of building to the Stephenson Contracting Co. of Dallas, Texas, at \$22,000.

Washington, D. C.—Dwellings.—Leon Dessez has prepared plans for three dwellings for Senator Newlands to cost \$25,000.

Wheeling, W. Va.—Government Building.—Plans by Marsh & Peter, architects, Washington, D. C., have been accepted by the Treasury Department for erection of proposed government building to cost \$250,000. James Knox Taylor, supervising architect, Treasury Department, Washington, D. C., can be addressed.

RAILROAD CONSTRUCTION.

Railways.

Amarillo, Texas.—The Rock Island system will not, it is reported, resume work until next spring on the extension from Amarillo to Tucumcari, N. M. About fifty miles of grade have been completed and ties and other track material are on the ground.

Baltimore, Md.—Reported that the Baltimore & Ohio Railroad Co. has made a preliminary survey from a point near Glenwood, W. Va., to coal fields in Logan and Wyoming counties. J. M. Graham is chief engineer.

Box Springs, Ga.—J. T. Broadnax will, it is reported, build a railroad three and one-half miles long past his two mills from Box Springs to Parade Sulphur Springs, connecting with the Central of Georgia Railway.

Brewton, Ala.—Reported that the Cedar Creek Mill Co. will build a standard-gauge railroad twenty-five miles long from Brewton to timber lands in Escambia and Conecuh counties. T. R. Miller is president.

Bristol, Tenn.—Reported that the Virginia & Southwestern Railway Co. has under consideration propositions to extend from Elizabethton to Okalona, eight miles, and also from Elkanah to Johnson City, eighteen miles. J. B. Newton is vice-president and general manager at Bristol.

Bronson, Fla.—The Otter Creek Lumber Co. will, it is reported, extend its railway to Port Royal, about thirty miles.

Bushnell, N. C.—The Southern Railway is reported to have finished six miles of grade on its line from Bushnell to Maryville, Tenn., via Rabun Gap. W. J. Oliver & Co. are the contractors.

Cecil, W. Va.—The Cecil & Sandy Creek Railroad Co. is reported to have made a survey for its proposed line.

Charleston, W. Va.—Financial arrangements are reported complete for building twenty miles of the Imboden & Odell Railroad, which is to be forty-one miles long from Charleston to Belvoir, W. Va. As heretofore noted, contract has been let for twelve miles. C. P. Peyton of Charleston is chief engineer.

Chattanooga, Tenn. A charter has been granted to the Emory Valley Railroad Co., the incorporators being R. Adolphus, B. Davenport, B. Cooke, W. R. Crabtree, B. F. Ferris, M. M. Hope and T. P. McMahon.

City of Mexico, Mexico.—The National Railroad of Mexico will, it is reported, build a branch from its main line to Brownsville, Texas, via Matamoras. R. T. Macdonald is chief engineer at the City of Mexico.

Cumnock, N. C.—President S. A. Hensley of the Raleigh & Western Railway is reported as saying that the plan to extend the line is not abandoned, but details are now being settled and the extension will be constructed. George C. MacGregor is chief engineer.

Dallas, Texas.—The Texas & Pacific's line from Donaldsonville to Napoleonville, La., is

reported complete, and will soon be opened. It is also stated that the Fort Allen extension in Concordia parish, Louisiana, will be completed within ten days, with the exception of about 2800 feet of trestle and switches and sidings. This line is to be finished by December 1.

Demopolis, Ala.—Steps to build the proposed Demopolis & Minden Railroad are under way. W. L. Agee of Watkins & Agee, railroad contractors, of Birmingham, has, it is reported, investigated the project.

Ellisville, Miss.—Mr. T. S. Howell informs the Manufacturers' Record that the Mobile, Jackson & Kansas City Railroad Co., which last summer took over the Ellisville & Laurel Railroad, in which he was interested, is building a spur into Ellisville from the main line. The grading is done, and it is expected that the track will be laid by January 1.

Eureka Springs, Ark.—Reported that the St. Louis & North Arkansas Railroad will resume work January 1 and continue its extension south from Leslie, to which point it is now in operation. Geo. L. Sands is vice-president.

Fairmont, W. Va.—President Charles E. Hawker of the Big Flat-Top Coal Co. informs the Manufacturers' Record that final surveys and rights of way have been secured for the Flat-Top Railroad from Raleigh Station, on the Pine Creek branch of the Chesapeake & Ohio Railway, for a distance of twenty miles, and actual construction will begin soon. It is expected that by June next this twenty miles will be completed and in operation. It is proposed to continue the line to Bramwell, on the Norfolk & Western Railway, forty miles from Raleigh Station, but construction on the latter section will not begin for some time.

Fayette, W. Va.—Reported that the contract has been let for the first five miles of the proposed electric railway from Thurmond to Mt. Hope, a total distance of twelve miles. Col. G. T. McKell and others are interested.

Fernwood, Miss.—The Fernwood Lumber Co. proposes to build five miles of railroad.

Frederick, Md.—The Myersville & Catoctin Electric Railway Co. of Frederick has been granted a franchise to extend its line along the county roads from Myersville to the Washington county line.

Fredericksburg, Va.—Gen. J. Floyd King is reported among those interested in the proposed Fredericksburg & Rappahannock Railroad, and is obtaining rights of way for the line.

Fredericktown, Mo.—Mayor F. Kleppas has received a letter from Louis Houck proposing to build a railroad connection between Fredericktown and Chester, Ill.

Fort Smith, Ark.—The Fort Smith Construction Co. has been awarded the contract to build a line from the Suburban Railroad to a point opposite Van Buren.

Galveston, Texas.—Mr. C. F. W. Felt, chief engineer Gulf, Colorado & Santa Fe Railway, informs the Manufacturers' Record that the contract has been let for construction of the Saratoga branch, running from Bragg, on the Beaumont division, to Saratoga, Texas, ten miles.

Grafton, W. Va.—The Baltimore & Ohio Railroad's extension from Century to Buckhannon, about fourteen miles, will, it is reported, soon be complete. It will avoid heavy grades on the West Virginia & Pittsburgh division.

Grafton, W. Va.—Rapid progress is being made by Rinehart & Dennis on the construction of the Buckhannon & Northern Railway, the Wabash connecting link from Pittsburg. An excellent grade has been found from Moatsville to the junction of the West Virginia Central.

Hammond, La.—The Hammond Lumber Co., Limited, it is reported, will extend its railroad, the Hammond & Eastern, through Tangipahoa parish and into St. Tammany parish.

Houston, Texas.—The charter of the Old River & Trinity Railroad Co. has been approved. It proposes to build a line from Moore's Bluff to Dayton, Texas, ten miles. The directors are C. R. Cummings, W. C. Huff, W. R. Miller, W. Glaser, B. F. Greenwood, F. G. Belk, R. H. Burns, Walter Gardner, Elmo Jones and J. W. Coleman, all of Houston.

Lexington, Ky.—The Bluegrass Traction Co. has opened its line from Lexington to Paris.

Lexington, Ky.—The Bluegrass Traction Co. has put in operation its extension from Lexington to Paris, Ky.

Linerville, Ala.—John S. Jemison writes the Manufacturers' Record that an organization of the Birmingham & Linerville Railroad Co. will be effected about December 1. The char-

ter has not yet been granted. Only about ten miles of line will be built now from Pyriton, on the Eastern Railway of Alabama, to Lineville. Wilson & Abber of Birmingham, it is reported, are engineers for the road.

Livingston, Texas.—A committee consisting of C. A. Noblett, L. F. Gerlach and T. F. Meece has been appointed to secure rights of way for a railroad which W. H. Knox & Sons, lumber manufacturers, propose to build from their projected mill, two miles east of Livingston, to connect with the Houston, East & West Texas near the depot.

Louisville, Ky.—Reported that the Louisville & Nashville Railroad will make a 14-mile extension of the Lumberton branch of the Alabama Mineral Railroad in Talladega and Coosa counties, Alabama. R. Montfort is chief engineer at Louisville.

Louisville, Ky.—Reported that the Louisville & Nashville Railroad will reduce curves and grade on its Kentucky Central line from Cincinnati to Jellico. R. Montfort is chief engineer.

Malvern, Ark.—The Wisconsin & Arkansas Lumber Co. writes the Manufacturers' Record that its logging road, the Malvern & Free Valley Railway, has built eight miles of line and will probably be extended six or eight miles.

Martinsburg, W. Va.—The Baltimore & Ohio Railroad has completed its freight cut-off from North Mountain to Cherry Run.

Morgantown, W. Va.—The Morgantown & Pittsburgh Railway Co. of Morgantown has been chartered to build a line from Morgantown to Fairmont, about twenty miles; capital \$750,000. The incorporators are Joseph H. McDermott, Davis Elkins, C. B. Dillie and T. R. Dillie of Morgantown, and C. W. Swisher of Fairmont.

Moss Point, Miss.—W. Denny & Co., lumber manufacturers, inform the Manufacturers' Record that they are considering the possibility of building a railroad thirty-five miles long in a direction opposite to that of their present line, and north of Moss Point.

Nashville, Tenn.—The Tennessee Interurban Electric Railway Co. has reorganized by electing T. E. Perry, Jr., president; H. A. Gross, vice-president, secretary and treasurer, and J. E. Kent, chief counsel, all of Pittsburg, Pa. This is the result of a purchase of the interests of C. W. Ruth and Frank Haskell, who promoted the line, by Mr. Perry and C. W. Pope of Pittsburg. The company proposes to build from Nashville to Columbia, and also to Gallatin.

New Berne, N. C.—Work is reported begun on the Pamlico Railroad.

Oaxaca, Mexico.—The Oaxaca & Ejutla Railway is reported to have completed its extension for about seventeen miles beyond Ocotlan. About six miles more are to be constructed to reach Ejutla.

Oklahoma City, O. T.—Manly Bros. of this place are reported to have received the contract for building twenty-one miles of the extension of the Wichita Valley Railroad from Wichita Falls, Texas, to the Red river.

Pittsburg, Pa.—C. W. Pope and T. E. Perry, Jr., of Pittsburg are reported to have bought the interests of C. W. Ruth and Frank Haskell in the Tennessee Interurban Railway Co., which proposes to build a line from Nashville to Gallatin, Tenn.

Pontotoc, Miss.—Construction on this end of the Mobile, Jackson & Kansas City Railroad has been started southward from this place by R. Kelley, manager for A. G. Brown & Co.

Raleigh, N. C.—Mr. E. B. Barbee, one of the incorporators of the Capital Construction & Development Co., writes the Manufacturers' Record that the Raleigh & Pamlico Railroad will be about 110 miles long, connecting Raleigh, Wilson, Greenville and Washington, N. C. It will also connect with the Seaboard Air Line, the Southern Railway and the Atlantic Coast Line. The engineer in charge is T. M. T. McKenney.

Richmond, Va.—President Geo. W. Stevens of the Chesapeake & Ohio Railway is quoted as saying that he is considering a proposal to connect the Greenbrier branch of the C. & O. with the Monongahela division of the Pittsburgh & Lake Erie Railroad by building a line from Durbin, W. Va., to Red Stone Junction, Pa., to give a through route to Pittsburgh.

Sanford, N. C.—Mr. W. J. Edwards, president of the Atlantic & Western Railroad, informs the Manufacturers' Record that it will have nearly four miles of its line completed in about six weeks. There are fifty miles under construction.

St. Louis, Mo.—The St. Louis & San Francisco Railroad Co. has, it is reported, decided to enlarge its yards at Fort Scott. J.

F. Hinckley is chief engineer of construction, 800 Fullerton Building, St. Louis.

St. Louis, Mo.—The Missouri Pacific Railway Co. will, it is reported, construct new yards on sixty acres of land recently purchased near Carondelet. H. Rohwer is chief engineer.

Vicksburg, Miss.—J. R. Shaeffer of Chicago, who is interested in the Vicksburg Street Railway, is reported to be also interested in a plan to build an electric railway from Vicksburg to Jackson, Miss., forty-five miles.

Washington, D. C.—An official denies the reports that the Southern Railway will build a line from Wrens to Louisville, Ga., or from North Wilkesboro, N. C.

Wheeling, W. Va.—The Williamstown & Moundsville Railway Co. will, it is reported, build a line along the Ohio river, connecting towns and villages between Wheeling and Parkersburg. Among those interested are G. A. Wagner, cashier National Bank of West Virginia; W. A. Wilson, J. B. McKee and W. F. Shafer, all of Wheeling.

Whitehouse, Ky.—The Chesapeake & Ohio Railway will, it is reported, have its extension, now building from Whitehouse to Pikeville, completed and in operation as far as Paintsville by January 1 and to Prestonsburg by February 1.

Street Railways.

Elizabeth City, N. C.—C. M. Ferebee is reported to have obtained an extension of time until March 1 next for beginning work on the proposed electric railway.

Fort Worth, Texas.—Construction is under way on the Rosen Heights Electric Railway, two miles long. It will connect with the Fort Worth line.

Gretna, La.—It has been decided to sell a franchise for an electric street railway through Jefferson parish. The Algiers & Gretna Railway, A. M. Halliday, president, may build the line.

Lawton, O. T.—The Lawton, Wichita Mountain & Western Electric Railway has applied for a franchise in the city.

Washington, D. C.—The Washington Traction, Railway & Electric Co. proposes to extend its line up Eleventh street beyond Florida avenue. Gen. George Harries is vice-president.

Wheeling, W. Va.—John A. Howard is quoted as saying that work will probably be started soon on the proposed Wheeling, Waynesburg & Eastern Railway.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Agricultural-Implement Parts.—Reed & Zemp Harvesting Machine Works, Camden, S. C., wants prices on wheels, fingers, single-trees, shafts and seats for horse hay rakes.

Boiler.—Vermont Slate Co., Granville, N. Y., is in the market for fittings for a 150-horse-power boiler and a water heater.

Bread-tray Machinery.—See "Woodenware Machinery."

Canning Equipment.—Ostrich Planting & Canning Co., Alfred S. Coward, secretary, 1221 Baronne street, New Orleans, La., wants equipment for canning oysters, crabs, fruits, etc.

Canning Machinery.—John H. Murphy, 633 Magazine street, wants price-list and full information on canning machinery.

Corn Mill.—See "Flour Mill."

Cotton-gin Equipment.—J. J. Casey, Atlanta, Texas, wants cotton gin (three 70-saw stands), large condenser, double-box press, steam trumper, 35-horse-power engine, 45-horse-power return tubular boiler and grist mill. Second-hand equipment will be considered.

Cotton Hooks.—Wm. W. Bierce, Limited, Hennion, Building, New Orleans, La., wants to buy cotton hooks by the gross.

Creamery.—H. M. Grant, Garber, O. T., wants prices on 20-horse-power horizontal boiler one-half front complete, 15-horse-power

horizontal engine, 3000-pound capacity De LaVal Alpha separator, No. 4 Disbrow churn, pumps, vats, tanks, two-and-one-half-ton ice plant and five-ton refrigerating plant.

Dust Collectors.—Jesse Parker, Pine Level, N. C., is in the market for fan to remove saw-dust from pit under saw to boiler-room; the mill cuts 8000' feet daily.

Electric Motors.—Rhine Weave Mill, Gastonia, N. C., wants either a 14-horse-power or a 20-horse-power electric motor, new or second-hand.

Electrical Machinery.—Helena Coal Co., Hillsville, W. Va., may want electric machinery later on; Crockett Bailey, engineer in charge.

Electrical Machinery.—Spray Woolen Mills, Spray, N. C., is in the market for 25-kilowatt dynamo, with arc lights and wiring.

Electrical Machinery.—Morehead Cotton Mills, Spray, N. C., is in the market for 25-kilowatt dynamo.

Elevator.—Bids will be opened November 24 for installation of electric passenger elevator in postoffice building at Tampa, Fla., in accordance with plans and specifications. Copies of same may be obtained at office of Supervising Architect James Knox Taylor, Treasury Department, Washington, D. C.

Engine.—Wilson Livery Co., Spray, N. C., is in the market for a seven-horse-power engine, slide valve.

Engine.—Rhine Weave Mill, Gastonia, N. C., wants a 14 or 20-horse-power gasoline engine.

Engine and Boiler.—See "Hoisting Equipment."

Engine and Boiler.—Charlotte Brick Co., Fort Mill, S. C., wants a good second-hand single or double cylinder hoisting engine or boiler with one drum.

Engine and Boiler.—See "Creamery."

Engine and Boiler.—Anniston Furniture Factory, B. M. Markstein, president, Anniston, Ala., wants prices on 100-horse-power automatic and slide-valve engine and 80-horse-power horizontal return tubular boiler.

Engine and Boiler.—Alman Lumber & Manufacturing Co., Jonesville, S. C., wants to buy engine and boiler.

Engine and Boiler.—See "Cotton-gin Equipment."

Fire Buckets.—Wip. W. Bierce, Limited, Hennion Building, New Orleans, La., is in the market for conical-shaped and round-bottom fire buckets by the gross.

Flour Mill.—Hico Milling Co. of Burlington, N. C., wants bids to equip 100-barrel flour mill and 200-bushel corn mill.

Furniture-factory Supplies.—Thorsby Furniture & Manufacturing Co., Thorsby, Ala., is in the market for bed and table casters, bedstead irons, wood screws, bolts with thumb screws, varnish, fillers, etc.; also a 36-inch planer, new or second-hand.

Grist Mill.—See "Cotton-gin Equipment."

Grist Mill.—M. M. Hamilton, Shawnee, Tenn., wants small fast-grinding grist mill, either new or second-hand; one with side gear preferred.

Heating Furnace.—Kingwood Armory, Kingwood, W. Va., wants hot-air furnace for heating 48x90-foot wood theater.

Hoisting Equipment.—Charlotte Brick Co., Fort Mill, S. C., wants single or double cylinder hoisting engine or boiler with one drum, duplex steam, four or five-inch suction and steam-hoisting drum of six to ten horsepower.

Ice and Refrigerating Machinery.—See "Creamery."

Lard Machinery.—See "Oil Refinery."

Laundry Equipment.—T. D. Pearson, Sparta, Tenn., wants complete estimate on steam laundry for town of 1500.

Lumber Plant.—Texas Lumber Co., T. J. Williams, president, Nacogdoches, Texas, will buy band mill to cut 20,000 feet of hardwood daily. Second-hand will do if guaranteed.

Machine-shops' Equipment.—L. Arkin, consulting engineer, Industrial Museum, Moscow, Russia, wants drawings, estimates, illustrated description and full particulars for a complete equipment of repair shops, with modern tools, for an electric steel railway line 200 miles long, using 400 cars.

Metal-working Machinery.—See "Perforating Machinery."

Mill Supplies.—Alman Lumber & Manufacturing Co., Jonesville, S. C., wants to buy belting, shafting, etc.

Mining Machinery.—See "Electrical Machinery."

Oil Mill.—Harlem Gin & Mill Co., Harlem, Ga., wants estimates on five-ton cotton-oil mill, plantation mill style.

Oil Refinery.—A \$50,000 company is in the market for all kinds of supplies in connection with cotton-oil refinery (cooking, salad, miners' and edible oils), compound lard plant and soap works. Address H. J. J. Thlesser, superintendent in charge, care of Abilene Cotton Oil Co., Abilene, Texas.

Perforating Machinery.—E. Morrison Paper Co., John L. Brosise, manager, Washington, D. C., wants to correspond with manufacturers of machines for perforating paper, sheet metal or tin.

Piping—Piedmont Mining & Lumbering Co., Frank F. Taylor, engineer, Kemp's Creek, Ala., wants to buy 5000 feet or more of 12 to 24-inch iron pipe; also a distributor.

Printing Equipment.—R. A. Ballowe, Euclid, Ala., wants to purchase presses, type, etc., for complete printing equipment.

Pumps.—See "Hoisting Equipment."

Railway Equipment.—Wanted—to rent or buy on a one-half cash payment, about two miles of 16 or 20-pound rails, either new or first-class relaying; also a light locomotive, 36-inch gauge. Address Box 291, Kinston, N. C.

Railway Equipment.—See "Tank Cars."

Railway Equipment.—Savannah Locomotive Works & Supply Co., Savannah, Ga., is in the market for 36-inch-gauge locomotives not to weigh over eight to ten tons, suitable for running on wooden rail, either separate or saddle tank.

Railway Supplies.—Antler Coal & Coke Co., No. 10 Law Building, Lynchburg, Va., is in the market for a carload of light steel T rails, fifteen tons of 16-pound and five tons of 12-pound, new or second-hand; prices to be quoted f. o. b. Antler Siding, W. Va.

Railway Supplies.—Union Springs & Northern Railway, W. M. Blount, president, Union Springs, Ala., wants prices on 2000 tons of rebar steel rails, either 40, 50, 55 or 60 pounds or less. State when and where delivered.

Saw-mill.—See "Lumber Plant."

Saws.—Kerner Bros., Kernersville, N. C., wants to correspond with manufacturers of dealers in drag saws to cut off cordwood and logs, etc.

Soap Machinery.—See "Oil Refinery."

Steam and Return Pipes Underground.—Bids will be opened November 24 at National Home for Disabled Volunteer Soldiers, 346 Broadway, New York, for furnishing materials, labor, etc., for constructing additional steam and return pipes underground to general steam distribution and addition to underground system for electric light and power near Johnson, Tenn. Plans and other information can be had from architect, J. H. Friedlander, 244 Fifth Avenue, New York; Moses Harris, general treasurer, 346 Broadway, New York, or to superintendent of construction, Mountain Branch, Johnson City, Tenn.

Tank Cars.—Hilton J. Doggett, Merchants' National Bank Building, Baltimore, Md., is in the market for two tank cars of 8000 to 12,000 gallons capacity.

Tanks.—Hilton J. Doggett, Merchants' National Bank Building, Baltimore, Md., is in the market for two storage tanks of 8000 to 12,000 gallons capacity and two tank cars of same capacity.

Textile Machinery.—Lawrence McRae, Spray, N. C., is prepared to correspond with anyone having second-hand textile machinery for sale.

Vehicle Wheels, etc.—See "Agricultural Implement Parts."

Water-works.—City of Owensboro, Ky., will open proposals November 24 for system of water-works, to include brick pumping station and chimney, two concrete reservoirs and suction well, three water-tube boilers, two feed pumps and feed-water heater, two compound horizontal duplex condensing pumping engines of 3,000,000 gallons per twenty-four hours each, with surface condensers, one Corliss cross-compound air compressor of 2300 cubic feet of free air per minute capacity with surface condenser, intercooler and receiver, etc. Plans and specifications on file with City Engineer E. B. Shifley and with Consulting Engineer John P. Force, 37 Dispatch-Butler Block, Columbus, Ohio.

Water-works.—Town of Oak Ridge, La., wants estimates and bids on the construction of water-works. Address The Town Clerk.

Woodenware Machinery.—I. Moore, Hornbeck, S. C., is in the market for machines to make bread trays or bowls.

Woodworking Machinery.—See "Furniture-making Supplies."

Woodworking Machinery.—J. P. Craven, Atlanta, Ga., is in the market for spoke and handle lathes.

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Woodworking Machinery.—See "Saws."

Woodworking Machinery.—Parker Bros., Kelford, N. C., want second-hand pony planer to dress one side; they want full description.

Woodworking Machinery.—Jesse Parker, Pine Level, N. C., wants swing cut-off saw to cut up refuse around mill and trim lumber.

Woodworking Machinery.—Aniston Furniture Factory, B. M. Markstein, president, Aniston, Ala., wants prices on cabinet double surfer, chair tenon and mortiser, band resaw, glue jointer and other machinery for mission furniture factory.

Woodworking Machinery.—Alman Lumber & Manufacturing Co., Jonesville, S. C., wants to buy planer, resaw, scroll saw, rip saw, turning lathe, etc.

Woodworking Machinery.—Richmond Pattern Works, Richmond, Va., is in the market for machinery to manufacture wooden packing boxes.

Woodworking Machinery.—John W. Sigins, Lynchburg, Va., wants a second-hand stave cutter.

[Continued from Page 329.]

tubes, complete power-transmission machinery, etc., to furnish 320 horse-power for driving municipal electric plant.

Blast-Furnace Construction.

One of the most important classes of construction that has been perfected in this age of iron and steel is that of steel plates for blast furnaces, steel works and other industries of a kindred character. Steel-plate construction has demonstrated its worth, and now regularly enters into the erection and completion of plants by the great iron and steel manufacturing companies of this country. An interesting group of furnaces is that operated at Port Oran, N. Y., by Joseph Wharton. A third stack is just being completed under the superintendence of Edward Kelly, manager, and Messrs. Frank C. Roberts & Co. of Philadelphia, the designers. This stack will have a daily output of 400 tons of iron. It will be of considerable interest to those who operate furnaces or intend operating them in the future to know that the plate construction in the Wharton furnace was done by the William B. Pollock Co. of Youngstown, Ohio, blast-furnace builders. The Pollock Company makes a specialty of this branch of construction.

Private Gas Plants Installed.

Many manufacturing enterprises find economy served in the installation of private gas plants, both for lighting and fuel. Plants of this character, for which a steady and increasing demand has developed, have been devised by engineers. Such important Alabama enterprises as the Sloss Sheffield Steel & Iron Co., the Tennessee Coal, Iron & Railroad Co., the Birmingham Cement Co. and the Alabama Steel & Wire Co., besides the Sharon Steel Hoop Co. of Sharon, Pa., and other leading plants outside the South have recently installed the kind of gas plants referred to. The important position that these companies hold in their respective fields of activity makes their selection of any gas plant a valuable recommendation to the particular make of such equipment. It is therefore pertinent to note that these companies selected the machines that are installed by the Tirrell Gas Machine Lighting Co. of 44 Broadway, New York. This company was established in 1864, and has introduced its system in numerous leading plants during its long existence.

Why Not Incorporate?

This is surely an age of incorporation. Manufacturers, millers, miners and other business men find it greatly to their advantage, both for present and future conditions, to incorporate companies for conducting their enterprises. This tendency to incorporate is not confined to any one branch of business. It is being adopted by the million-dollar manufacturing concerns as well as by the smaller enterprise with only a few thousands of capital. Among the companies that offer their services especially for securing charters is the District of Columbia Charter Co., offices in the Columbia Building, Washington, D. C. This company advises that it is well to incorporate under a United States law—no incorporation fee required and no annual tax levied. It has incorporated some large enterprises since its establishment last July, including the American & Mexican Mining & Smelting Co. of New York, capitalized at \$30,000,000, and the Pittsburg & Amazon Rubber Trading Co., capitalized at \$1,500,000. The advantages of obtaining charters in the District will be explained to inquirers.

To Lubricate Automobiles.

Two interesting letters that speak for themselves and will appeal strongly to auto-

mobile users have been written by F. M. Manross of Forestville, Conn. On October 9 Mr. Manross wrote, in part: "I have been using Albany Grease on my automobile, and think it the very best. I am able to buy here but one kind, and have a four-cylinder touring car with grease cups under the bonnet close to hot exhaust pipe, which become so hot that your ordinary grease will melt and the cups be empty in running five miles. What I want is a very hard grease, and would have you send me a sample for trial. There are four of these cups, and they lubricate very important bearings." Just two weeks later Mr. Manross writes: "The samples of Albany Grease sent me have been given a complete trial. The No. 3 grease just fills the want, a fast 50-mile run having determined this. I also find that the Perfect grease cup is just what I want for these most important bearings on my engine." These letters were addressed to Messrs. Adam Cook's Sons of 313 West street, New York, the well-known manufacturers of Albany Grease.

An Unusual Opportunity.

Supplying the demand for mill and factory machinery and supplies and equipments for power plants in the South as well as other sections is a business that is steadily growing because of the increased activity in industrial fields. Machinery and supply houses of Baltimore, established more than thirty years ago, which has been catering to an extensive clientele in the South and elsewhere, will be sold because of certain conditions that have arisen and will be explained to prospective purchasers. This establishment handles boilers, engines, mill supplies, equipments for complete plants in woodworking, in ironworking, for power-houses and various other branches of the mechanical world. Because of the stable character of this offering it is not advisable to state the name of the enterprise, but those who desire to investigate in good faith are invited to address I. S. F., care of the Manufacturers' Record.

Rifle Shooting at Flying Objects.

The sport of shooting at flying or moving objects with a rifle is increasing in popularity, and several noteworthy performances in this line of sport have occurred recently. Prominent among those who have achieved success in this direction is Le Roy Leach, whose performance at Wood Lake, Neb., on August 2 was claimed at that time to be the world's record in that line of shooting. Mr. Leach shot at 1000 1½-inch wooden blocks thrown into the air by two assistants. He used a 22-caliber repeating rifle and a single bullet. The rifle used was fitted with plain open sights. The score made was:

Shot	Broke	Missed
50	48	First
50	47	First and last 2—
450	448	Last
450	447	First
1000	990	10

On October 14 Mr. Leach essayed to hit 1000 targets straight, and accomplished this remarkable feat. Mr. Leach shot at the same 1½-inch targets at a distance of twenty feet. He used a repeating rifle. At both tests he used Peters' 22 short cartridges loaded with King's semi-smokeless powder, and did not wipe the barrel throughout the 1000 shots. Shooting with Mr. Leach is a mere pastime, and his performance on August 2 was his first attempt to make a world's record.

TRADE LITERATURE.

Latest Roebling Discounts.

Buyers of wire rope are advised that the John A. Roebling Son's Co., Trenton, N. J., has issued a new list of discounts on wire rope. This list took effect October 21, and those who are interested should send for copy.

"Graphite" for November.

"Graphite" for November contains the usual quantity of information that instructs people in the use of the different forms of graphite. It is the monthly publication of the Joseph Dixon Crucible Co. of Jersey City, N. J., and is full of valuable data that will interest manufacturers and others. Send for copies.

A Directory of Departments.

Those interested in the building trades and in building materials are advised that a new leaflet has been issued by the Charlotte (N. C.) Roof & Paving Co. This leaflet is a brief

directory of departments, presenting a brief summary of the improved materials handled in the company's coal-tar, asphalt, roofing and sheet-metal departments.

Woodworking Machine List.

Buyers of woodworking machinery seeking second-hand equipment are advised to address the J. A. Fay & Egan Co. of Cincinnati for its list. This company, in introducing its new and improved tools, sometimes takes in exchange machines which, although termed second-hand, are practically the same as new. These machines are then disposed of at bargain prices.

Switchboards.

Particular care and attention should be given to the design and construction of switchboards, as these are vital parts of any system of electrical equipment. A varied experience in switchboard work enables the D'Olier Engineering Co. to claim excellence in design and construction, and to meet thoroughly the conditions of service. A bulletin giving particulars of the company's switchboards is now ready for inquirers. Address the offices at Philadelphia, 119 S. Eleventh street, or the Atlanta office in the Empire Building.

Milled Screws.

Dealers in or users of milled screws should not fail to procure a copy of the latest catalogue of the National Acme Manufacturing Co., Cleveland, Ohio. This catalogue is devoted to milled screws, of which a complete line is shown, set and cap screws being carried in stock in both V. and U. S. S. threads. These goods are first quality, packed in strong, substantial packages, and are giving satisfaction to a large and increasing trade. The company named also manufactures special mill work turned from steel, iron, zinc and brass, besides being the maker of the Acme multiple-spindle automatic screw machine.

Sheet Building Materials.

Messrs. Scott & Co., 234 E. Front street, Cincinnati, Ohio, the well-known makers of Asteroid Roofing, issue a special catalogue of their sheet building materials, roofing, siding, ceiling, arches, troughs, conductor pipe, roof paints, etc. They want to place this catalogue in the possession of every present or prospective user of the materials mentioned, and invite requests from Southern consumers and dealers. No matter whether the quantity of Scott products ordered is a hand package or a trainload—many of the latter were shipped during the past year—the same promptness and satisfactory shipments are given.

The Koppel Memorandum Book.

There has been issued a very useful and handsome pocket memorandum book by Arthur Koppel, manufacturer of narrow-gauge railway materials, 66-68 Broad street, New York. It is shaped to fit the vest pocket. Twenty-six pages are devoted to useful information on various subjects and the balance of the pages are blank for memoranda. The cover is of celluloid, with a picture in the center of a standard steel side-dump car, dumping to both sides, which is one of the many different styles of cars manufactured by the Koppel plant. A copy of this book will be sent upon request, also a complete catalogue of railway materials, to all interested parties.

Ryerson's Machinery Lists.

The November issue of Ryerson's Monthly Journal and Stock List is now being distributed. This publication is intended for manufacturers and users of machinery of all kinds, for structural iron workers, for railroads, miners and others active in the industrial field.

It gives lists of thousands of machines offered for sale, besides valuable data for the class of workers mentioned. A special announcement in the November issue is that Messrs. Ryerson & Son have been appointed general distributing agents for the Cleveland (Ohio) Punch and Shear Works. For copies of the book address Messrs. Jos. T. Ryerson & Son, Chicago, Ill. They also have offices at New York and Pittsburgh.

Hollow Concrete Building Blocks.

As the merits of hollow concrete building blocks become better known their use in the construction of buildings of all kinds is rapidly increasing. During the past year many companies have been formed throughout the United States to manufacture these blocks, and architects, contractors and owners of buildings are specifying them for proposed structures. The Harmon S. Palmer Hollow Concrete Building Block Co. issues a very interesting catalogue concerning its blocks, its artificial stone molding machines for their

manufacture, and its system of construction. Complete details are presented, together with illustrations of various buildings that have been built of the Palmer block. All who desire to know full particulars regarding the manufacture and use of this successful building material are invited to address the company at its offices, 1401 Binney street, Washington, D. C.

Green Traveling Link Grates.

Boiler users will find interesting reading in a booklet which gives some data concerning the Green Traveling Link Grate. This grate is devised to automatically clean all air spaces, discharge all refuse, prevent smoke and opening of doors, save coal and labor and increase efficiency and capacity. That this grade is successful in doing so is emphatically shown by recommendations from such enterprises as the Chicago Electric Traction Co., Anglo-American Provision Co., each of Chicago; Evanston Heating Co., Evanston, Ill.; Toledo Heating & Lighting Co., Toledo, Ohio; Atchison, Topeka & Santa Fe Railway system, Topeka, Kan.; Waukesha Sheet Steel Co., Waukesha, Wis.; Armour Packing Co., Chicago, and other well-known operators. The booklet mentioned is issued by the Green Engineering Co., manufacturer of the grate. Offices in Western Union Building, Chicago.

Mecklenburg Mining Machinery.

Important factors in the development of mining properties in the South, as well as in other sections of the country, have been the improved mining equipments introduced during recent years. Properties that in former years could not be profitably opened up are now paying enterprises because of modern invention and discoveries. In supply equipments of the highest character for mining the Mecklenburg Iron Works of Charlotte, N. C., has been particularly successful. This company is now issuing catalogue R, which calls attention to the fact that its experience of many years enables it to offer complete installations, whether large or small, that ensure economical and efficient work. The catalogue illustrates and describes the ordinary articles needed for mining and milling, and directs attention to the company's facilities for furnishing machinery in accordance with drawings, estimates, etc. Those who are interested in the production of gold from its ores especially are invited to write, as well as parties interested in any kind of mining work.

John A. Roebling's Sons Co.

The name "Roebling" has been connected with the manufacture of wire rope since 1840, and its very mention brings to mind the development of one of the most important industries in America and some of the most important engineering work ever undertaken. The present Roebling plant covers more than thirty-five acres of ground at Trenton, N. J., and a force of 5000 operatives is constantly employed, not considering those engaged in different parts of the country on the company's contract work. Its products of wire rope and wire-rope fastenings, iron, copper, brass and steel wire, galvanized telegraph wire and hard copper telephone wire are known throughout the entire world. The John A. Roebling's Sons Co. has ready for distribution its latest price-list, which contains, besides prices, descriptive notes on cableways and tramways, suspension bridges, transmission of power by wire rope, inclined planes and wire-rope haulages. The catalogue also gives a condensed history of the Roebling industry, together with a brief explanation and description of the processes of manufacturing the different ropes.

Hewitt Mercury Vapor Lamp.

An entirely new departure in the field of electric lighting is presented by the Hewitt Mercury Vapor Lamp. As its name implies, this lamp derives its light from the gas or vapor of mercury in which the passage of electric current causes a high state of incandescence. The lamp is constructed of a glass tube having a metal sealing-in wire at each end. These wires lead the current to the electrodes, one or both of which are of mercury. The tubes are exhausted to a high degree on a vacuum pump and sealed off. This prevents any escape of the vapor which fills the tube. The light produced is almost entirely lacking in red rays, to which benefit is added a further superiority of extreme diffusion. For offices, drafting-rooms, storehouses, machine shops and wherever an accurate determination of color values is not essential the Hewitt lamp is most suitable. A pamphlet giving full details has been issued, and demands a perusal from all who are seeking superior illumination approaching as near to natural light as is possible through modern invention. The Cooper-Hewitt

MANUFACTURERS' RECORD.

[November 12, 1903.]

itt Electric Co., 220 W. Twenty-ninth street, New York, manufactures the lamp in reference, and will furnish further particulars on request.

Interesting to Founders.

Owners and operators of foundries throughout the country, whether they are Obermayer customers or not (and a few yet remain in the latter class), will find much interesting material in the November number of the Obermayer Bulletin. This month the publication is more pretentious than usual, and contains much interesting data concerning the establishment and growth of that leading foundry-supply enterprise, the Obermayer Company, established thirty years ago.

On its thirtieth birthday the company celebrates with an historical review, showing how the enterprise was first begun in 1874 by the late Simon Obermayer, through whose energy and ability (assisted by the efficient helpers he gained from time to time) the business expanded until today its owners claim it is the largest foundry-supply house in the world. Having factories and warehouses in Cincinnati, Chicago and Pittsburgh offices in all the leading cities and a force of officials who know thoroughly the condition and demands of the foundry trade at all times, the Obermayer Company asks that those who are as yet unacquainted with its Bulletin of Foundry Information for Molders send name and address for a copy. This bulletin's history of the Obermayer enterprise will prove a mine of information to founders everywhere. It is issued from the Detroit office, 1318 Majestic Building.

Hazard Wire-Rope Catalogue.

The attention of all users of wire rope is asked for the new catalogue, dated September, 1903, of the Hazard Manufacturing Co., Wilkesbarre, Pa. This company manufactures wire rope of improved construction from Swedish iron, English crucible steel and plow steel rods (the wire drawn and tempered at its own works) for shafts, slopes, quarries, elevators, dredges, derricks, suspension bridges, ship's rigging, transmission of power and all other purposes to which wire rope is adapted. Hazard products have been a standard of excellence in material and construction for many years, having been first manufactured in 1848. This long experience in manufacture and a wide knowledge of the uses to which wire rope is subjected under various and difficult conditions has enabled the Hazard Manufacturing Co. to develop certain specialties which will be particularly interesting to users of wire rope. These specialties are illustrated and their advantages emphasized in facts presented in the new catalogue. They include Hazard's Swedish iron elevator rope, made of pure Swedish iron, which will wear without hardening and consequent fracture from bending strain; also Hazard wire ropes of cast steel and plow steel made by the Lang Lay construction, a standard in England for twenty-five years. Various other specialties are also enumerated. Requests for catalogue may be addressed to Wilkesbarre or the New York office at 50 Dey street.

American Blower Co. Literature.

The growing popularity of the fan system of heating, the general demand for the proper ventilation of buildings of all kinds and the increasing knowledge of the advantages of mechanical draft are factors which have assisted in making a reputation for the "A B C" steel-plate fans. These fans are designed on scientific principles, the material and workmanship entering into them are of the highest grade, and they have been installed for almost every conceivable purpose. In many manufacturing establishments and public buildings of all types the steel-plate fan is performing with great satisfaction the duties for which it is intended. The American Blower Co. of Detroit, Mich., is, as is well known, the manufacturer of "A B C" steel-plate fans for heating, ventilating and drying plants, forced and induced draft apparatus, etc. This company issues a series of trade publications giving full details relative to its products for the guidance of present or prospective buyers in this field. "A B C" literature is clear, concise and complete. It presents its subject in a most thorough manner, and is exceptionally pleasing as a work of the printer's art. Illustrations of large manufacturing plants using the "A B C" system and other interesting data are presented in such a manner as to enable the reader to readily appreciate the force of the commendatory statements made. The different publications are entitled "Mechanical Draft," catalogue No. 118, second edition; "Heating and Ventilation of Manufacturing Establishments," No. 145, second edition; "Steel Plate Fan," catalogue No. 155; "The 'A B C' Moist-Air Dry-Kiln," and circulars Nos. 39 and 42.

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office Manufacturers' Record,

Baltimore, Md., November 11.

The Baltimore stock market during the past week has been dull and steady. There was very little trading even in the usually active issues, and there were no indications of an early return of activity. The values of investment securities were well sustained, and there was a fairly good demand, considering general conditions, for such stocks and bonds.

In the trading United Railways common sold from \$12 to \$14; the incomes from 50% to 58%, and the 4 per cents at 90% and 91. Consolidated Gas changed hands at 62½ and 62¾; the 6s at 110, and the 4½ at 101½. Seaboard common sold at 13½ to 14, and the preferred at 21½; the 4 per cents at 67½ to 67¾, and the 5s at 98. Cotton Duck sold at 2½ to 3, and G.-B.-S. 1sts at 46.

Bank stocks sold as follows: Commercial and Farmers, 110; Commonwealth, 80; Citizens', 28; Mercantile Trust & Deposit, 125.

Other securities were traded in as follows: Baltimore & Ohio, 75½; Atlantic Coast Line 4s, 91½ and 91%; Atlantic Coast Line stock, 106½ and 107; Lexington Street Railway 5s, 100; Georgia & Alabama 5s, 105½; Baltimore City 5s, 1916, W. L., 120½; Virginia Midland 5th, 108½; International Mercantile Marine preferred, 18 to 19; Northern Central stock, 85 and 85½; Columbia & Greenville 6s, 116%; Virginia Century 2-3s, 96; Carolina Central 4s, 90% to 90½; Wilmington & Weldon 5s, 116½; Atlanta Street Railway 5s, 104½ and 104¾; Anacostia & Potomac 5s, 89%; Baltimore & Potomac Main Line 6s, 113; Lake Roland 5s, 118; Baltimore City 3½, 1928, 111½ and 112; do, do, 1930, 112; Potomac Valley 5s, 111; West Virginia Central 6s, 111; Seaboard & Roanoke 5s, 100; Baltimore, Chesapeake & Atlantic preferred, 30; Northern Central, 1904, 6s, 102½; Silver Springs, Oolah & Gulf 4s, 94½; Maryland Steel 5s, 101.

SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended November 11, 1903.

Railroad Stocks. Par. Bid. Asked

Atlanta & Charlotte.....	100	150	...
Georgia Sou. & Fla. 1st Pref.....	100	98	
United Railways & Elec. Co.	50	8½	8½
Seaboard Railway Common.....	100	12½	13½
Seaboard Railway Preferred.....	100	21	22
Atlantic Coast Line R. R.	100	105	108

Bank Stocks.

Citizens' National Bank.....	30	29	
Commercial & Far. Nat. Bank.....	100	110	
First National Bank.....	100	140	
Manufacturers' National Bk.	100	105½	
Merchants' National Bank.....	100	188	
National Bank of Baltimore.....	100	111	112½
National Exchange Bank.....	100	185	189½
National Howard Bank.....	10	11½	12½
National Mechanics' Bank.....	10	28	
Second National Bank.....	100	190	
Third National Bank.....	100	123	

Trust, Fidelity and Casualty Stocks.

Central Real Estate & Trust.....	50	62	
Continental Trust.....	100	125	160
Fidelity & Deposit.....	50	132½	140
International Trust.....	100	100	
Mercantile Trust & Deposit.....	50	125	140

Miscellaneous Stocks.

G. B. & S. Brewing Co.	100	5	12
United Elec. L. & P. Pref.....	50	40	
Consolidation Coal.....	100	70	
George's Creek Coal.....	100	11	87
Consolidated Gas.....	100	62	

Railroad Bonds.

Atlanta & Charlotte 1st 7s, 1907....	108	110	
Atlantic Coast Line 1st 4s.....	91	91½	
Columbia & Greenville 1st 6s, 1916.....	116½	117	
Georgia, Car. & North. 1st 5s, 1929.....	106½	107	
Georgia South. & Fla. 1st 5s, 1945.....	110½	111½	
Georgia Pacific 1st 6s, 1922.....	119		
Raleigh & Augusta 1st 6s, 1926.....	120		
Seaboard & Roanoke 5s, 1926.....	107	110	
Virginia Midland 1st 6s, 1905.....	110½	JII	
Virginia Midland 2d 6s, 1911.....	108½		
Virginia Midland 3d 6s, 1916.....	105	JII	
Virginia Midland 4th 3-4-5s, 1921.....	105		
Virginia Midland 5th 5s, 1926.....	108½		

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SOUTHERN COTTON MILL STOCKS		
Quotations Furnished by Hugh MacRae & Co., Wilmington, N. C., for Week Ending November 10.		
Bid. Asked.		
Abbeville Cotton Mills (S. C.).....	70	
Aiken Mfg. Co. (S. C.).....	90	
Anderson Cotton Mills (S. C.).....	123	126
Arkwright Mills (S. C.).....	105	
Augusta Factory (Ga.).....	64	
Avondale Mills (Ala.).....	90	95
Beltown Mills (S. C.).....	101	
Bibb Mfg. Co. (Ga.).....	108½	
Brandon Mills (S. C.).....	101	
Buffalo Cot. Mills (S. C.) 1st Pfd.....	101	104½
Buffalo Cot. Mills (S. C.)	95	
Cabarrus Cotton Mills (N. C.).....	122	
Chiquola Mfg. Co. (S. C.).....	96	
Clifton Mfg. Co. (S. C.).....	103	
Clinton Cotton Mills (S. C.).....	135	
Courtenay Mfg. Co. (S. C.).....	125	127
Columbus Mfg. Co. (Ga.).....	25	
Dallas Mfg. Co. (Ala.).....	80	
Darlington Mfg. Co. (S. C.).....	91	
Eagle & Phenix Mills (Ga.).....	100	
Easley Cotton Mills (S. C.).....	100	
Enterprise Mfg. Co. (S. C.).....	89	
Exposition Cotton Mills (Ga.).....	150	
Gaffney Mfg. Co. (S. C.).....	97	
Graniteville Mfg. Co. (S. C.).....	155	
Greenwood Cotton Mills (S. C.).....	90	102
Grendel Mills (S. C.).....	105	
Henrietta Mills (N. C.).....	135	200
King, John P., Mfg. Co. (S. C.).....	83	
Lancaster Cotton Mills (S. C.).....	100	110
Lancaster Cot. Mills (S. C.) Pfd.....	100	
Langley Mfg. Co. (S. C.).....	85	90
Laurens Cotton Mills (S. C.).....	125	
Lockhart Mills (S. C.).....	100	
Louis Mfg. Co. (N. C.).....	95	
Louis Mfg. Co. (N. C.) Pfd.....	102	
Marlboro Cotton Mills (S. C.).....	102½	104
Mancheser Cotton Mills (S. C.).....	90	
Mills Mfg. Co. (S. C.).....	100	
Mills Mfg. Co. (S. C.) Pfd.....	100	
Monaghan Mills (S. C.).....	100	103
Newberry Cotton Mills (S. C.).....	120	
Norris Cotton Mills (S. C.).....	108½	
Odell Mfg. Co. (N. C.).....	98	
Orangeburg Mfg. Co. (S. C.) Pfd.....	103	
Ore Cotton Mills (S. C.).....	102	
Pacolet Mfg. Co. (S. C.).....	106	
Pelzer Mfg. Co. (S. C.).....	165	175
Piedmont Mfg. Co. (S. C.).....	200	
Ronoke Mills (N. C.).....	29	
Saxon Mills (S. C.).....	100	103
Sibley Mfg. Co. (Ga.).....	60	66
Southern Cotton Mills (N. C.).....	95	
Spartan Mills (S. C.).....	135	140
Trion Mfg. Co. (Ga.).....	125	150
Tucapan Mills (S. C.).....	140	
Union Cotton Mills (S. C.) Pfd.....	103½	
Victor Mfg. Co. (S. C.).....	130	
Warren Mfg. Co. (S. C.).....	100	102
Warren Mfg. Co. (S. C.) Pfd.....	100	
Washington Mills (Va.).....	15	20
Washington Mills (Va.) Pfd.....	96	
Whitney Mfg. Co. (S. C.).....	115	125
Wilmington Cot. Mills (N. C.) Pfd. 100	100	
Woodruff Cotton Mills (S. C.).....	96	97½

For Southern Development.

Maj. George B. Edwards of Charleston, S. C., has, it is announced, secured extensive backing for the Metropolitan Investment Co., which he will manage there, and will operate all over the South. He has spent several weeks in the North establishing connections with capitalists who are seeking investments in Southern industries properly authenticated. It is further stated that he already has under investigation a number of enterprises which he expects will be developed through his efforts.

The Metropolitan Investment Co. is to be operated as a financial brokerage business and is to bring together enterprise and capital. Major Edwards is in touch with enterprising men of the South, and also has the confidence of capitalists in the North, and he is thus enabled to advance the interests of both, to which work he will devote his energy. In his position as vice-president of the Chamber of Commerce of Charleston, and also through his service on sundry boards and commissions representing business interests in the city, he has acquired a close and wide knowledge of the needs of the South, and his long connection with banking institutions has given him a high standing in financial circles.

Major Edwards will have his headquarters at the Exchange Banking & Trust Co. on Broad street, and the work of the

company will cover a close and conscientious study of Southern industrial projects that promise well. Such of these as commend themselves to his judgment he will submit to the consideration of capitalists who may desire to invest in Southern enterprises.

New Corporations.

Business men at Anna, Texas, are organizing a national bank.

The Volunteer State Life Insurance Co. has begun business at Chattanooga, Tenn.

The Houston Fire & Marine Insurance Co. of Houston, Texas, capital \$100,000, has been authorized to begin business.

A bank with \$25,000 capital has been organized at Norcross, Ga., with S. T. McElroy as president. The cashier is yet to be elected.

The Pikeville National Bank of Pikeville, Ky., has been authorized to begin business; capital \$25,000. J. E. Yost is president, and Fon Rogers, cashier.

The People's State Bank of Coyle, Okla., capital \$10,000, has been incorporated by W. A. Ruggles and Alfred Hare of Tecumseh, M. E. Fruin, J. D. Townsend and A. W. Adams.

For Additional Financial News, See Pages 28 and 29.

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High-grade Investment Bonds, Municipal, Railway, Industrial.

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CONDENSED STATEMENT OF THE First National Bank of Richmond, Va.

SEPT. 9, 1908.

RESOURCES.

Loans and Discounts	\$4,077,890.94
Overdrafts	142.54
Other Stocks and Bonds	1,601.78
Banking House and other Real Estate	67,610.14
Furniture and Fixtures	0.00
U. S. 2% Per Cent. Bonds at par (Market Value \$667,000.00)	612,500.00
Premium on U. S. Bonds	0.00
Virginia Bonds to Secure U. S. Deposits	396,000.00
Cash and Due from Banks	1,408,312.35
LIABILITIES.	\$6,580,457.75
Capital	\$600,000.00
Surplus and Profits, net	515,742.23
Reserved for Interest	9,050.01
Circulation	879,900.00
Deposits	4,447,219.51
U. S. Bond Account	12,500.00
Virginia Bond Account	306,000.00
	\$6,580,457.75

VIRGINIA NEWTON, Pres. JNO. M. MILLER, JR., Cash.

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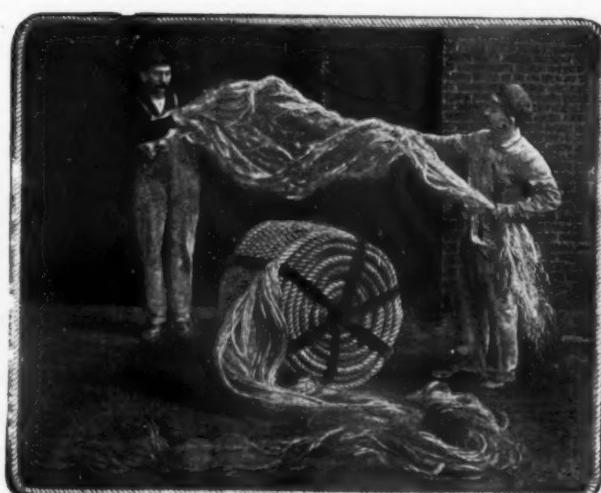
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References by permission:
Central Natl. Bank, Natl. Capital Bank and James L. Norris, Patent Solicitor, Washington, D. C.**HUGH C. RISDON,**Industries Located, Organized and Financed.
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COTTON MILL STOCKS

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WASHINGTON, D. C. (Kellogg Building).

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Of Maryland,

BALTIMORE.

Capital, \$2,000,000.00

Surplus and Profits, \$1,550,660.12

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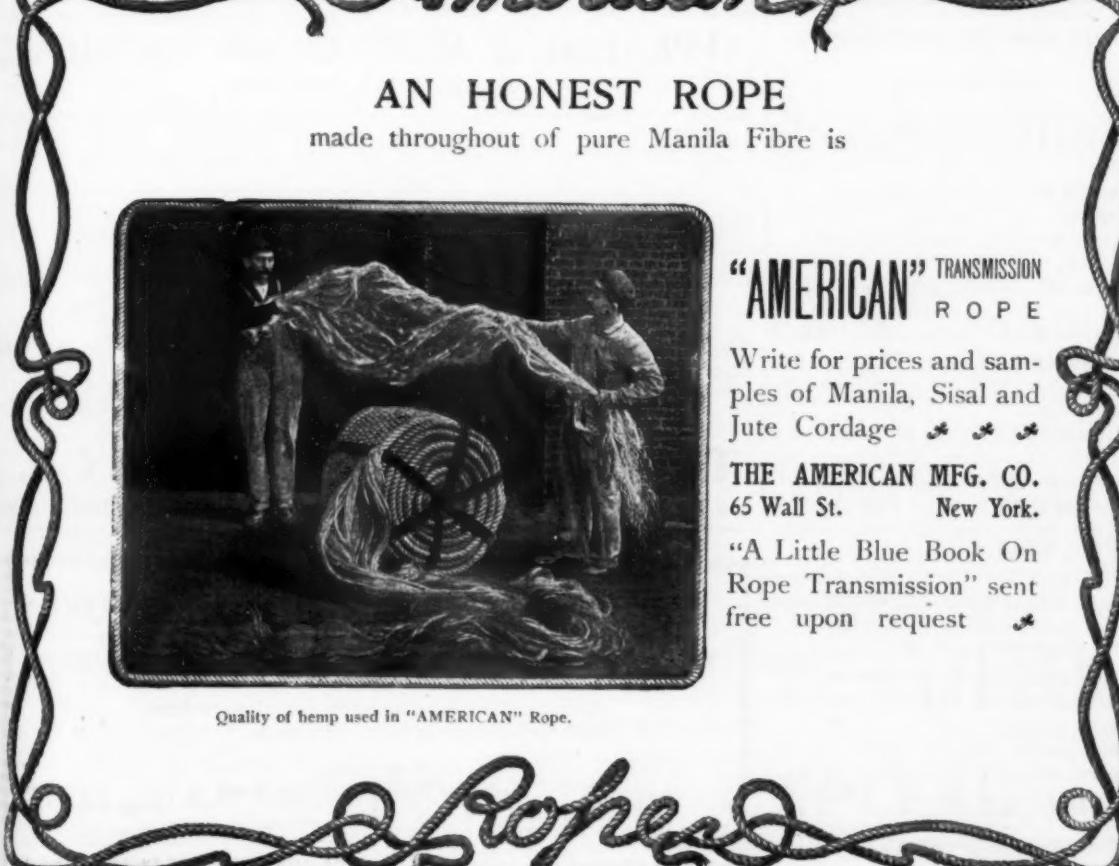
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Correspondence Invited.



MANUFACTURERS' RECORD.

The Bank of Ocilla at Ocilla, Ga., has been chartered with \$25,000 capital.

The Lincoln Realty Co. of Pine Bluff, Ark., capital \$50,000, has been incorporated by Julius Leitner, Burton B. Weil and E. B. Bloom.

The Valley Securities Co., capital \$100,000, has been incorporated at St. Louis, Mo., by W. Palmer Clarkson, J. W. Perry, F. W. Wrieden, Robert L. Gurney and Chas. E. King.

The Hampton Bank of Hampton, Ark., has been chartered with \$30,000 capital and the following officers: W. C. Dunn, president; H. B. Dunn, vice-president; D. W. Bass, secretary and cashier.

The Oak Building and Savings Association, capital \$300,000, has been incorporated at Baltimore, Md., by Fred C. Korff, Henry M. L. Becker, Frank Muller, Edward H. Letzer and Henry A. Ulrich.

The Citizens' Bank, capital \$50,000, is reported organized at Norton, Va., with officers as follows: Ex-State Senator Robert P. Bruce, president; R. Tate Irvine, vice-president, and George Jenkins, cashier.

The Monett State Bank of Monett, Mo., capital \$50,000, has organized, with officers as follows: Dr. A. S. Hawkins, president; S. W. Pierce, vice-president; Joseph W. Lindsey, cashier; J. W. Griggs, assistant cashier.

The Home Building and Loan Association of Van Buren, Ark., has been chartered, with \$75,000 capital. The officers are Lewis Bryan, president; S. A. Pernot, vice-president; W. G. Furry, secretary; Giles Lucas, treasurer.

The American Perpetual Building and Loan Association of Spartanburg, S. C., has elected officers as follows: T. B. Stackhouse, president; J. W. Alexander, vice-president; C. E. Epton, secretary and treasurer; J. J. Gentry, solicitor.

The Carey Realty Co., to conduct a building and loan association business, has been incorporated, with \$10,000 capital, at Baltimore, Md., by Martin O. Benjamin, Harry W. Sutcliff, Clarence B. Tyler, Jacob Katz and William T. Larokin.

The Bank of Monroe at Union, W. Va., has been incorporated, with \$25,000 capital, by M. J. Kester, Shelton Clark, C. E. Lynch, W. H. Ballard, John L. Rowan, S. A. Lynch, C. H. Davidson, C. L. Johnson, J. W. Lynch, H. P. Tracy, J. P. McCoy and W. S. Stroman.

The First National Bank of Clendenin, W. Va., capital \$25,000, has organized by electing directors as follows: Luther V. Koontz, president; James A. Osborne, vice-president, and George Ort, cashier; M. F. Osborne of Clendenin and Addison Hall of Charleston.

The First National Bank of Greenup, Ky., has organized by electing officers as follows: William T. Hord, president; Sturgis G. Bates, vice-president; J. Ed Pollock, cashier; Joe K. Pollock of Cincinnati, James D. Biggs, Ed Pollock, W. T. Hord and S. G. Bates, directors.

The Bruceton Bank of Bruceton Mills, W. Va., capital \$25,000, has been incorporated by L. E. Friend and others of Friendsville, W. Va.; Jeremiah Thomas and others of Clifton Mills, W. Va.; W. H. Miller and others of Bruceton Mills, W. Va.; Vestus Thomas of Florence, W. Va., and A. K. Frazee of Hazelton, W. Va.

The Newnan Investment & Improvement Co. of Newnan, Ga., capital \$20,000, with privilege of increasing it to \$100,000, has applied for a charter. The incorporators are R. H. Hardaway, G. R. Black, L. P. Bradley, H. C. Fisher, W. C. McBride, J. A. Hunter, W. P. Gearrell, C. B. Glover, A. R. Burdett and Mike Powell. The Farmers' Bank of Somerset county

has been organized at Marion, Md., by S. King White, A. S. Carver, Gordon Tull, J. W. Hall, S. A. Tull, John W. Coulbourne, James C. Carver, John T. Handy, George P. Parsons, A. E. Tull, A. A. Whittington and E. M. Brooke. The following are the officers: President, Gordon Tull; vice-president, L. T. Miles, Jr.; cashier, Aden Davis, Jr.

The Texas National Bank is organizing at Dallas, Texas, with \$250,000 capital. The directors are W. C. Padgett (president), W. G. Scarff (vice-president), D. E. Grove (vice-president), J. W. Blake (vice-president and cashier), B. C. Barrier (assistant cashier), A. C. Wilson (assistant cashier), A. Ragland, S. G. Davis, A. P. Duncan, Chas. Meisterhans, Wirt Davis, G. W. Riddle, Jos. Linz, A. A. Jackson and A. J. Brown.

The National Safe Deposit Co. of Birmingham, Ala., capital \$50,000, which is associated with the First National Bank of that place, has filed articles of incorporation. The officers are: President, W. P. G. Harding; first vice-president, J. M. Barr; second vice-president, W. W. Crawford; secretary, Thomas Bowron; treasurer, A. R. Forsythe; directors, T. T. Hillman, W. S. Brown, S. T. Nabers, Robert Jemison, W. P. G. Harding, J. H. Barr and W. W. Crawford.

The Leake County Bank of Carthage, Miss., has applied for a charter. The incorporators are R. L. Jordan, J. D. Williams, W. H. Hutter, J. L. McMillon, W. M. Jordan, L. R. McDonald, W. H. Collier, J. F. Cadenhead, W. A. Ellis, J. H. Caldwell, H. I. Caldwell, J. E. Ayers, R. H. Wallace, J. B. Sullivan, Miss Stella Sanders, Miss Singleton Garrett, J. M. Wadsworth, M. P. Sanders, T. F. Wallace, J. H. Hall, W. F. Adams, D. A. O'Bannon, R. P. Wright, F. E. Williams, J. R. Lowry.

The Elks' Home Building Association of Savannah, Ga., has applied for a charter; capital \$30,000, with the privilege of increasing it to \$200,000. The incorporators are Robert L. Colding, F. S. Lathrop, W. H. Connerat, Jr., W. B. Puder, G. Reuben Butler, W. W. Starr, Adolph Lefler, Samuel Reynolds, John R. Young, B. H. Levy, John J. Kirby, T. F. Thompson, E. F. Hartfelder, Charles Marks, W. J. Watson, Henry McAlpin, W. R. Leaken, Harvey Granger, W. T. Dixon, Frank Kuhlman and John E. Schwarz.

New Securities.

Canyon City, Texas.—Canyon City has registered \$12,000 of school bonds.

Hartstown, Ky.—The city has voted to issue \$24,000 of water-works bonds.

Danville, Ky.—The citizens have voted to issue \$20,000 of water-works bonds.

Norfolk, Va.—The common council has authorized an issue of \$70,000 of bonds.

Fairfield, Texas.—Freestone county has registered \$1500 of bridge-repair bonds.

Parkersburg, W. Va.—The city has voted to issue \$100,000 of 4 per cent. 20-year bonds.

Hampton, Va.—The town council has authorized the sale of \$23,000 of 5 per cent. bonds.

Chickasha, I. T.—The bond issue of \$93,000 for water-works and sewerage has been approved.

Groesbeck, Texas.—The State board of education has purchased \$20,000 of Limestone county road and bridge bonds.

Port Arthur, Texas.—An ordinance has been passed authorizing an issue of street bonds, as provided for in the recent election.

Shawnee, O. T.—An election will be held on November 14 to vote on an issue of \$125,000 of 6 per cent. water-works bonds.

Gadsden, Ala.—An election is to be held on January 19 to vote on the question of

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WILMINGTON, DELAWARE.

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W. H. BURDICK, Asst. Cash.
Capital, \$500,000.00
Surplus and Undivided Profits, 131,028.69
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T. E. WITTERS, Sec'y. & Mgr.

THOS. L. BERRY, Treasurer

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Chicago,
New York Life Building.

Philadelphia,
Arcade Building.

issuing \$100,000 of 5 per cent. bonds for water-works.

Greensboro, N.C.—The Guilford county highway commission has sold to Seasongood & Mayer of Cincinnati \$65,000 of road bonds at 105.

Meridian, Miss.—Although no date has been set for the sale of the new courthouse bonds, inquiries with reference to a purchase are already being received.

Newport News, Va.—An ordinance has passed approving the sale of \$56,000 of paving bonds to Denison, Prior & Co. of Cleveland and Boston at a premium of \$800.

Paris, Texas.—The city council has sold \$55,000 of water-works bonds to W. G. Breg of Dallas, Texas, for O'Connor & Kahler of New York at \$55,305 and interest.

Minden, La.—The city council has decided to issue \$36,000 of 5 per cent. bonds for water-works, and a special election will be held to vote on the bonds on December 12.

Atlanta, Ga.—The Atlanta & Marietta Electric Railway Co. has filed a mortgage to secure \$600,000 of 5 per cent. bonds with the Guaranty Trust Co. of New York, trustee.

Aiken, S.C.—The city of Aiken will sell \$30,000 of 4 per cent. 20-40-year water-works and sewer bonds dated November 2, 1903. George W. E. Thorpe is chairman of the finance committee.

Donaldsonville, La.—The Atchafalaya and Lafourche Basin levee boards have appointed committees to issue and sell \$120,000 of bonds for improvements. A. H. Gay is president of the former, and Victor Maurin of the latter board.

Macon, Ga.—At the election on December 8 a vote will be taken on the issue of \$60,000 of 4 per cent. bonds, of which \$40,000 is to be for sewers and \$20,000 for the proposed auditorium, which will contain offices for city officials and the city-council chamber.

Tampa, Fla.—It is proposed to vote on a bond issue of \$250,000, to be distributed as follows: For a garbage crematory, \$15,000; for a city hospital, \$10,000; for the floating debt, \$10,000; for street paving, sewer extension and other public improvements, \$215,000.

Financial Notes.

The Farmers' Bank of Siloam Springs, Ark., has increased its capital from \$15,000 to \$30,000.

The Shadburn Banking Co. of Buford, Ga., has increased its capital from \$25,000 to \$40,000.

The Guaranteed Loan & Banking Co. of Dallas, Texas, has increased its capital from \$5000 to \$10,000.

The American National Bank of Bar-

tlesville, I. T., has been authorized to begin business; capital \$25,000.

A dispatch from Jackson, Miss., says that within a month six new banking institutions have been formed in that State.

The bond commission of Macon, Ga., has invested some of the city's surplus in \$8000 of bonds issued by the city of Savannah.

The "Land of the Sky" and "Sapphire Country"—Ideal Winter Resorts.

The Southern Railway reaches the ideal winter resorts of the "Land of the Sky" and "Sapphire Country," including Asheville, N. C.; Hot Springs, N. C.; Hendersonville, N. C.; Brevard and Lake Toxaway. The climate of this section is unparalleled, suitable for invalid, athlete or sportsman, and offers every charm of an ideal winter resort. Elegant tourist hotels. Through sleeping cars from principal cities.

Tourist tickets now on sale at very low rates. Ask nearest ticket agent for detailed information and descriptive literature.

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wants process man with about \$1000 cash to be identified with a cannery, or cannery and feed mill combined. We will furnish capital from \$5000 to \$10,000. Correspondence will show opportunity to right man.

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I understand the business thoroughly, both practically and theoretically.

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Surplus and Profits, - \$593,000.
Deposits, \$10,150,000.

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New Orleans, La.

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Deposits \$12,000,000

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WYATT H. INGRAM, JR., Trust Officer.

NEW YORK OFFICE OF THE AMERICAN COTTON OIL CO.
27 Beaver St., N. Y. City, Nov. 5, 1903.
The Annual Meeting of the Stockholders of The American Cotton Oil Company will be held at the principal office of the Company, the Refinery, near Guttenberg, Hudson County, New Jersey, on Thursday, the 3d day of December, 1903, at 12 o'clock noon, for the purpose of electing Directors and for the transaction of such other business as may properly come before the meeting.

The Stock Transfer Books will be closed on November 12, 1903, at 3 P. M., and will remain closed until December 4, 1903, at 10 A. M.

By order of the Board of Directors
JUSTUS E. RALPH, Secretary.

The Board of Directors of THE AMERICAN COTTON OIL COMPANY has this day declared a semi-annual Dividend of Three Per Cent. upon the Preferred Stock, payable December 1, 1903, and a Dividend of Four Per Cent. upon the Common Stock of the Company, payable in two installments, as follows: Two Per Cent. on December 1, 1903, and Two Per Cent. on June 1, 1904, at the Banking House of Winslow, Lanier & Company, 59 Cedar Street, New York City. The Transfer Books of the Company, for dividends payable December 1, 1903, will be closed on November 12, 1903, at 3 P. M., and will remain closed until December 4, 1903, at 10 A. M. The Common Stock Transfer Books, for that portion of Dividend upon the Common Stock, payable June 1, 1904, will be closed on May 16, 1904, at 3 P. M., and will remain closed until June 2, 1904, at 10 A. M.

JUSTUS E. RALPH, Secretary.

Dated November 5, 1903.

WE INVITE YOUR DEPOSIT ACCOUNT.

United States Mortgage & Trust Company

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American Steam Gauge & Valve Mfg. Co.	19	Flint & Walling-Elec. Light Co.	34	Lehman, Charles T.	33	Petroleum Iron Works Co.	51	Sturtevant, B. F., Co.	35	
American Steam Pump Co.	52	Fitz-Hugh-Luther Co.	36	Leland, F. J.	15	Phoenix Iron Works Co.	15	Sturtevant Mill Co.	41	
American Supply Co.	49	Floyd & Walling Mfg. Co.	53	Lewis, Henry, & Co.	51	Phoebe Bronze Smelting Co., Ltd.	51	Sullivan Machinery Co.	41	
American Tin Plate Co.	44	Florida Electric Co.	56	Lewis, H. F., & Co., Ltd.	51	Piedmont Electric Co.	57	Sutherland, Howard.	55	
American Type Founders Co.	36	Foote, M. S., Mfg. Co.	41	Lidgerwood Mfg. Co.	20	Pittsburgh Reduction Co.	21	Taylor Iron & Steel Co.	41	
Andrews & Johnson Co.	49	Foos Mfg. Co.	41	Lindsey, John B.	12	Pittsburgh Reduction Co.	21	Thew Auto Shovel Co.	49	
Andrews, Perry, & Bro.	52	Force, Jno. P.	7	Lombard Iron Wks. & Sup. Co.	21	Pittsburgh Reduction Co.	21	Thompson, Son & Co.	23	
Anthracite Mch. & Supply Co.	23	Ford, Issac H.	8	Louisville Elevator Co.	19	Pittsburgh Reduction Co.	21	Thornton, Light & Power Co.	29	
Apex Equipment Co.	36	Forman, Thomas, Co., Ltd.	2	Low, Edgar S.	19	Pittsburgh Reduction Co.	21	Thorpe, George W. E.	31	
Appraisal & Audit Co. of Amer.	25	Fox, M. Ewing, & Co.	27	Lowell Crayon Co.	21	Pittsburgh Reduction Co.	21	Titus, E. B.	24	
Arctic Machine Co.	1	Frost & Walling Co.	41	Lowell Machine Shop.	21	Poor's Railroad Manual Co.	31	Tobey & Kirk.	25	
Armbridge Mfg. Co.	32, 45	Gainesville Fire Extinguisher Co.	22	Lucas, J. C. M.	31	Port Arthur Water Co.	31	Tod, William, Co.	25	
Armstrong, B. S., & Bro.	26	Gainesville Signal Oil Co.	26	Ludlow-Saylor Wire Co.	42	Porter, H. K.	12	Toomey, Frank.	25	
Asphalt Ready Roofing Co.	45	Galt, John, & Sons.	45	Ludlow Valve Mfg. Co.	7	Poulter & Co.	27	Trafford, E. W.	25	
Atherton Machine Co., A. T.	1	Gandy Belt Co.	24	Lukoff Rule Co.	44	Powhatan Clay Mfg. Co.	47	Trampe, C. F.	1	
Atkins, E. C., & Co.	46	Garrett, C. S., & Son. Co.	45	Lunkenheimer Co.	24	Practical Manufacturer.	29	Trask, Spencer, & Co.	27	
Atlas Kingz Works.	17	Gavin Machine Co.	34	Lyman, C. W., Sec'y Prog. Union Lynchburg Tractor & Lt. Co.	54	Pratt & Whitney Co.	6	Treasury Department.	1	
Audel, Theo., & Co.	31	Gary, James S., & Son.	25	Patterson, J. W.	32	Trenton Iron Co.	42	Triumph Electric Co.	67	
Audit Co. of New York.	25	Gasser, Paul.	6	Price Machinery Co.	32	Tupelo Tank Co.	51	U.S. Cast Iron Pipe & Fdy Co.	36	
Aultman, The.	39	Gates & Crellin Co.	21	Price, S. M. Machinery Co.	20	Underwood, H. B., & Co.	10	Underwood, H. B., & Co.	10	
Austin Mfg. Co.	40	Gates, Wm. S., & Co.	35	Pulsometer Steam Pump Co.	53	Union Brick Bond Co.	44	Union Iron Works Co.	76	
B	B. and S.	29	Giblith, Frank B.	1	Putnam, J. R.	32	Union Rail Co.	22	United Iron Works Co.	22
Babcock & Wilcox Co.	19	Gibraltar Boiler & Mfg. Co.	43	Queen City Printing Ink Co.	‡	Universal Cast & Foundry Co.	23	Universal Cast & Foundry Co.	23	
Bacon Air Lift Co.	52	Glamorgan Pipe & Foundry Co.	53	Railways & Light Co. of America.	28	U. S. Cast Iron Pipe & Fdy Co.	36	U. S. Mortar & Trust Co.	29	
Badger, E. B., & Sons Co.	45	Globe Register Co.	1	Rainey, John H. & Co.	4	Valley Iron Works.	19	Valk & Murdoch Iron Works.	19	
Badger Fire Extinguisher Co.	1	Goldfin' Foundry & Mch. Co.	23	Ransom Concrete Mch. Co.	8	Vanduzen Co., E. W.	21	Valley Iron Works.	19	
Baeder, Adamson & Co.	49	Graham Bros. Co.	35	Ransom Smith Co.	5	Van Noorden, E. Co.	45	Vanduzen Co., E. W.	21	
Bailey-Lebby Co.	10	Graham Lumber Co.	32	Raymond Bros. Impact Pulv. Co.	20	Van Winkle, E. Gin & Mch. Wks.	41	Van Winkle, E. Gin & Mch. Wks.	41	
Bailey, J. S., & Co.	22	Greaves, A. M., & Sons Co.	31	Regnery Progressive Union.	54	Vanderbilt Bridge Iron Co.	29	Vanderbilt Bridge Iron Co.	29	
Bailey, John T., & Co.	9	Greiman Lubricating Co.	1	Record Printing House.	54	Vitrified Wheel Co.	29	Vitrified Wheel Co.	29	
Baird Machinery Co.	10	Greeves, Kusman & Sons Co.	1	Red Cypress Lumber Co.	47	Vogt, Henry, Machine Co.	1	Vogt, Henry, Machine Co.	1	
Baker, H. C., & Co.	24	Green Fuel Economizer Co.	20	McAfee, Calvin N.	8	Voorhees Rubber Mfg. Co.	21	Voorhees Rubber Mfg. Co.	21	
Baker, Stillwell & Hart.	25	Greenwald, I. E., & Co.	29	McAdoo, Thomas.	6	W				
Baldwin Locomotive Works.	18	Gulf Refining Co.	54	McCarthy, J. P.	6	Waggoner Watchman Clock Co.	9	Waggoner Watchman Clock Co.	9	
Ball Engine Co.	17	Columbian Cordage Co.	58	McClave, Hamilton & Co.	3	Walker, Henry, Co.	41	Walker, Henry, Co.	41	
Ball & Wood Co.	•	Columbus Iron Works Co.	25	McDonald Bros.	58	Walker & Elliott.	41	Walker & Elliott.	41	
Baltimore Belting Co.	26	Columbus Machine Co.	17	McGriffic & Countz.	22	Wall, F., Mfg. Supply Co.	21	Wall, F., Mfg. Supply Co.	21	
Baltimore Engine Co.	17	Commercial Electric Co.	57	McKenna, David.	51	Walz Department.	21	Walz Department.	21	
Balto. Fidelity Warehouse Co.	29	Consolidated Air Lift Co.	58	McKernan Drill Co.	12	Warren Chemical & Mfg. Co.	46	Warren Chemical & Mfg. Co.	46	
Baltimore-Maryland Engrav. Co.	60	Continental Car & Equip. Co.	40	McLanahan-Stone Machine Co.	6	Watson, John A., & Co.	42	Watson, John A., & Co.	42	
Balt. Shipbdg. & Dry Dock Co.	53	Continental Trust Co.	27	McMichael & Hunter.	15	Watson, Benjamin.	33	Watson, Benjamin.	33	
Baltimore Steam Packet Co.	24	Contractors' Equipment Co.	33	McMichael & Wildman Mfg. Co.	45	Watson, R. E.	33	Watson, R. E.	33	
Barnes, W. F. & John, Co.	11	Contractors' Plant Mfg. Co., Ltd.	21	McMillan Bros. Co.	45	Watson-Stillman Co.	41	Watson-Stillman Co.	41	
Barnett, G. H., & Co.	58	Contractors' Supply & Equip. Co.	33	McWilliams Bros. & Co.	5	Weaver, W. T., Power Co.	21	Weaver, W. T., Power Co.	21	
Berry Hill Min. Spg. Co., of Va.	21	Cook, Justices, Jr., & Co., Ltd.	22	McWilliams Bros. & Co.	5	Webster & Orr.	24	Webster & Orr.	24	
Bersch & Co.	1	Creamery Package Mfg. Co.	22	McWilliams Bros. & Co.	5	Rockwell Engineering Co.	7	Rockwell Engineering Co.		

PROPOSALS.

GALVESTON, TEXAS, Oct. 7, 1903.
SEALED PROPOSALS, in duplicate, for grade raising at Galveston, Texas, involving over 11,000 cubic yards of filling, will be received by the Chairman of the Grade Raising Board, until 2 P. M., December 7, 1903, and then publicly opened. For information apply to E. R. CHEESBOROUGH, Secretary Grade Raising Board, Galveston, Texas.

C. S. RICHE, Consulting Engineer.

FORT MYER, VA., October 23d, 1903.—Sealed proposals, in triplicate, for constructing Blacksmith Shop, Guardhouse and Extension to Riding Hall, will be received until 10 A. M. November 21, 1903. The U. S. reserves right to reject any or all bids or any part thereof. Information on application. Envelopes containing bids should be endorsed "Proposals for Buildings," addressed CAPT. W. F. CLARK, Q. M.

OFFICE CITY WATER WORKS, Richmond, Va., Nov. 2, 1903.—Sealed proposals will be received at this office until Monday, November 16th, at 5 P. M., for Buildings and Machinery, as follows: One Annex Building and one Small House, both to be of granite; Hydraulic, Steam and Electric Machinery of 200 horse-power, and two Electric-Motor Pumps, each of 1000 gallons per minute. Plans, specifications and full information may be obtained at this office. Proposals the whole or any part are to be accompanied with a certified check of \$500. The Committee on Water reserve the right to reject any or all bids. CHAS. E. BOLLING, Superintendent.

GEO. W. E. THORPE,
HENRY BUSCH,
F. W. WESSELS,
Finance Committee.

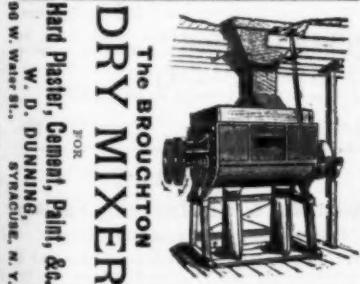
The City of Aiken,
FINANCIAL DEPARTMENT.

Bids for \$30,000 4 Per Cent. Bonds.

SEALED bids will be received by the Finance Committee of the City Council of Aiken, S. C., till noon, Thursday, Dec. 10, 1903, for the purchase of \$30,000, or less, Water Works and Sewerage Coupon Bonds, denominations being twenty (20) Five Hundred (\$500) dollar bonds, twenty (20) One Thousand (\$1000) dollar bonds, bearing Four (4%) per cent, interest from Nov. 2, 1903, payable "in legal tender money of the United States of America," forty (40) years from date, with the privilege of redemption after twenty (20) years, as provided by law. Interest payable semi annually at the office City Clerk and Treasurer Aiken, S. C. Bids must include accrued interest at time of sale. The bonds are duly authorized by law, and all the legal requirements of the Statutes of South Carolina complied with. The right to reject any and all, or a part of any and all bids, is hereby reserved by the City Council, by whom this sale is to be authorized and approved before the same is perfected. A certified check for Five Hundred (\$500) Dollars, payable to order. The City of Aiken, must accompany each bid as a guarantee of good faith. Legal advisers, Messrs. Hendersons, Aiken, S. C. Address all letters to the Chairman.

GEO. W. E. THORPE,
Chairman Finance Committee.

Aiken, S. C., Nov. 2d, 1903.

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The most helpful series of books published for Engineers and Firemen, relating to a safe and sure preparation for examination for Engineer's licenses and promotions. Complete Catalogue sent free, write to-day.

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Combined.

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JOHN H. KIRBY, President.

Capital
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General Office, Houston, Tex.

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Leaf Yellow Pine Trees.

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We can Saw up to 70 ft.

Sixteen mills in operation, two more building. These mills are located on two of the greatest railway systems in the South, reducing difficulty arising from lack of cars to a minimum.

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in the World.

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you would find in it an instrument that would more than realize your ideals.

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24 pages, 10x12, of splendidly illustrated matter, educational in its scope, covering in a comprehensive way the wonderful growth of the American cement trade and the many remarkable aspects of this remarkable industry. Will be mailed on receipt of 20 cents and mention of this paper.

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Cooper Building, Denver, Colorado.

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Or for any other purpose requiring great pressure.
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Southern Investments

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1140-ACRE TRACT OF LAND, in the famous fertile St. Francis Valley, 7 miles north of Earl, Crittenden County, Ark. The Tyronza river makes a bend and runs on three sides of it; it is 1½ miles across the bend on the south side; will require very little fence; lies well and has fine natural drainage; all wood lands low; stock cut off; will make fine stock or produce farm; new railroad started, runs in one-half mile; several houses and barns on land; will sell in 320-acre blocks, cheap, with good terms, to right parties. Apply to KNOTT & MEELY, Crawfordsville, Ark.

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In Osceola and Brevard Counties, Florida.

300,000 ACRES Will cut 300 feet Long Leaf Yellow Pine per acre. Also 100,000,000 feet Large Cypress. Price \$2.00 per acre. After November 1st price will be \$2.50. Will divide.

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GRAHAM LUMBER CO.
OF CHRISTIANSBURG, VA.

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Write if interested.

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Thirty-five thousand acres in Calcasieu Parish, Louisiana; twenty-four thousand acres guaranteed to cut twelve thousand per acre; eleven thousand guaranteed to cut ten thousand per acre. Directly on railroad. Well blocked. Titles perfect. Principals only.

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Free Building Sites, Banks, Schools, Electric Lights and Electric Power.

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JAS. W. WILSON, President,
Write for Booklet.

WELDON, N. C.

By J. E. CONANT & CO., Auctioneers, Office, Lowell, Mass.

Without limit, without reserve, at absolute auction, will be sold entire
The Modern and Model Worsted Weaving and Finishing Mill
of the Simson & Kirkaldy Company at Woonsocket, Rhode Island, on
Tuesday, the 17th day of November, 1903.

This is not an abandoned or worn-out plant, but a new and going concern that can be started within 24 hours, or sooner, if the raw material is at hand or provided; after the assignment the business was continued long enough to complete all unfinished orders, or until about March 1st; the care of the property since the shutdown has been excellent; the property, which is on River St., just beyond the plants of the Woonsocket Worsted Mills and the Perseverance Worsted Co., will be open for inspection after 8.30 o'clock A. M. on Saturday and Monday, the 14th and 16th days of November, 1903; the product was fine worsted suitings and trouserings; the business was started in 1888; the present mill was erected and equipped at an expense of \$58,750, in 1895. The dyehouse plant was added in 1897 at an expenditure of \$10,000; the same year two additional Manning type upright boilers were installed, costing \$4,000; in 1900 the storehouse property was purchased for \$1,000, very much less than its cost; in 1902 more land was purchased and a stable erected at an outlay of \$573; between 1895 and 1903 new dressing, weaving and finishing machinery to the value of \$13,976 was put into the mill; the mill is 21x167 ft., one story, is 13 ft. posted at walls and 15 ft. in centre, has 122 windows, 10 ft. 3 in. x 4 ft. 5 in.; 8 skylights, 9 ft. 6 in.x8 ft.; is divided by semi-partitions into the winding, spooling and twisting room, the weave room and the finishing room, with the power plant in the centre; the coal is dumped from the cars into the boiler house; the land has 56,000 square feet; the equipment includes 45 Knowles broad looms, a pattern loom, 3 bobbin winders, 4 skein winders, 10 spoolers, 4 twisters, 3 dressers, 3 automatic yarn dryers, Perkins engine lathe, 2 rotary washers, hydro-extractor, 3 rotary fulling mills, Heathcote horizontal dryer, jumbo brush, shear, brush, press, dewing, measuring, doubling and winding machines, steam power and electric lighting plant, &c., &c., &c.; purchaser must deposit with or secure to the auctioneer \$4,000, just as soon as the property is struck off; the property is sold subject to a mortgage of \$16,550 and accrued interest; premises open for inspection two days before sale. For full terms and conditions of sale, catalogue in detail of the property or other information, send to the office of the auctioneers. The sale will take place upon the premises, and regardless of weather conditions will begin promptly at half-past two o'clock in the afternoon.

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now offers electric power, at very low rates for manufacturing purposes, from its Power Station on the French Broad River, four miles from the City of Asheville, N. C.

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We offer for sale an up-to-date milling plant, with dry kilns and planing mill attached. At the junction of two trunk lines of railroad. Timber has been estimated to cut about 22,000,000 feet. Rate to Brunswick, Ga., a deep water port, \$6.00 per car. Price \$25,000 cash.

This is a going concern and is ready for buyer to step right into a paying business. Good reasons given for wanting to sell.

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Without limit, without reserve, at absolute auction, will be sold entire
The Modern and Model Worsted Weaving and Finishing Mill
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The N. C. Bessemer Co. has 3700 acres of land for sale in McDowell County, N. C., on the Southwestern R. R. containing large quantities of hard and soft timber, an immense amount of marble and lime stone, fine water power and large quantities of hard and soft iron ore, veins from 4 to 10 feet thick, analysis runs high in iron; also indications of copper. For further descriptions, address,

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Mill, large 4-story brick building. Nordyke & Norman Co. machinery, 300 brls. flour and 600 bus. meal per day. Factory, large 3-story brick building. H. B. Smith machinery. Fine water power for running both mill and factory. Plenty of water for doubling capacity. On Baltimore & Ohio Railroad and Chesapeake & Ohio Railroad. Side track at doors. Fine grain and stock-raising county. For price and particulars address

M. B., care Manufacturers' Record.

Boiler Plant for Sale.

An up-to-date Boiler and Sheet Iron Manufacturing Establishment, formerly owned by M. Zier & Co., of New Albany, Ind. Equipped with air and electric improvements and a stock of merchandise on hand. Ready to begin work at once. Can be bought at a great bargain.

Apply to HERMAN JOSEPH,
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BRICK YARD for Sale.

30,000 capacity; Chambers machine with all necessary kilns, etc.; 20-year lease on 20 acres of clay; good local demand and within 47 miles of Atlanta; best railroad facilities; wood plentiful at \$1.75 per cord; yard now in operation at a good profit; object of selling, other business requiring our attention. Price reasonable. Address CARTERSVILLE BRICK CO., Cartersville, Ga.

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Completely equipped plant for Agricultural Implements, Railroad Supplies, General Contracting, Fine Repair Business. Capacity, 200 men. Rail and water transportation. No strikes; cheap labor, timber and iron. Beautiful residence city; southeast. For sale at great bargain.

WILLIAM MARTIEN & COMPANY,
12 St. Paul St., Baltimore, Md.

Bargains in Machinery FOR IMMEDIATE DELIVERY.

BOILERS.

1 250 H. P. Babcock & Wilcox, 160 lbs. pressure.
1 250 H. P. and 200 H. P. Heine, 150 lbs. pressure.
1 267 H. P. Abendroth & Root, 150 lbs. pressure.
1 175 H. P. Locomotive type, 150 lbs. pressure.
1 150 and 125 H.P. Locomotive type, 150 lbs. press.
3 return tubulars, 7 $\frac{1}{2}$ " x 17", 100 lbs. pressure.
1 return tubular, 6 $\frac{1}{2}$ " x 15", 100 lbs. pressure.
2 return tubular, 6 $\frac{1}{2}$ " x 17", 115 lbs. pressure.
2 return tubulars, 4 $\frac{1}{2}$ " x 14", 100 lbs. pressure.

ENGINES.

1 17x42 Brown, cut-off, 100 r. p. m.
1 22x8 Hewes & Phillips Corliss.
1 20x8 Harris Corliss, practically new.
1 14x28 Delameter Corliss type.
1 13x21 Buckeye, tangy bed, 125 h. p.
1 18x18 Ridgeway McEwen automatic.
1 18x24 Atlas automatic.
1 16x24 Atlas automatic.
1 9x8 Climax automatic.
1 16x30x48 Hamilton, tandem.
1 13 and 20 $\frac{1}{2}$ x15 Armstrong & Sims, c. c.
1 13x19x15 McIntosh & Seymour, tandem.
3 11x17x15 Harrisburg, tandem.

STEAM SHOVELS.

1 Vulcan, Giant B, No. 100, Crane type, standard gauge, 1 $\frac{1}{2}$ yard dipper, with engines and boilers.
2 Souther, Otis type, one standard gauge, and one wide gauge, 1 $\frac{1}{2}$ yard dipper, complete with engines and boilers.

COMPRESSORS.

1 24 and 24x30 Rand Straightline type C, steam driven, 1320 ft. free air.
1 12 and 14 $\frac{1}{2}$ x14 Ingersoll-Sergeant.

THOMPSON SON & CO.

114-118 Liberty St. NEW YORK CITY.

FOR SALE.

BOILERS	80 h. p. Hor. Tubular.....	\$240
250	Watertube.....	440
ENGINES	30 " McIntosh & Seymour	160
15 "	Gas Engine, "Otto".....	180
60 "	Westinghouse.....	280
125 "	N. V. Safety.....	680
175 "	Corliss.....	980
DYNAMOS	120 lights Edison.....	138
180 "	Onondaga.....	135
200 "	Mather.....	150
270 "	Edison.....	190
510 "	Edison.....	298
1000 "	Edison.....	540

American Electric Supply & Mfg. Co.
27 Thames St., New York City.

MENGEL'S MACHINERY EXCHANGE

15 H. P. Geyser Portable Boiler and Engine on wheels. 25 H. P. Portable Duvall on skids. 10 H. P. Baxter Engine and Boiler combined. 55 H. P. White & Middleton Gas or Gasoline Engine, 12" by 36". 60 H. P. Hamilton-Corliss Engine, directly connected to 25-ton Linder Ice Machine. 5 and 10-ton Vertical Compressors. 4 25 and 35 H. P. Horizontal Engines. Sharp's Collar and Caff Ironer. Band Starcher and Ironer. 50 gal. Copper Starch Kettle. 60-light Dynamo. 25 110 volt Manhattan Arc Lights. Cylinder and Job Printing Presses. Paper Cutters. Complete Plants and Machinery of all kinds Bought, Sold and Exchanged. Nearly new 25 H. P. White & Middleton Marine Gasoline Engine.

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Second-Hand Engines and Boilers for Sale Cheap.

One 14x20 plain slide valve, side crank engine. One 12x20 plain slide valve, side crank engine. One 11x16 Erie Automatic Engine. One 60-horsepower Junior Westinghouse Automatic Engine, cylinders 9 $\frac{1}{2}$ -inch bore. One 14x36 Sioux Corliss Engine, right hand. One 54-inch by 14-inch tubular boiler. One Stilwell Heater. All the above in first-class repair and can make immediate delivery. Address

FISHER MACHINE WORKS CO.
LEAVENWORTH, KANSAS.

FOR SALE.

Fifty Whitin Welman Top Flat Cards, with 40 tops 40 ins. wide. Cylinder 42 x 40 ins. Doffer 40x18 ins. Floor space 8 ft. 2 ins. x 5 ft. 2 ins., with collars. Production 125 lbs. per day. Some of these cards are only 3 years old, balance 8 years. They can be seen running. Also 150 sets Steel Clothing in extra good condition; 100 Doffers; 150 Mason Looms, 44"; 10 Ashworth Revolving Top Cards. For full information and price apply to

WM. J. DUNN,
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Second-hand Dynamos, Motors and Electrical Appliances. All money savers. Repair anything. Have you a Dynamo or Motor for sale?

GUARANTEE ELECTRIC CO.
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STEAM PLANT BARGAIN, AT ZENIA, O.

We offer the following for delivery December 1st.

Boilers.

3 72x16 Horizontal Tubular Boilers—2 allowed 95 lbs. steam, 1 allowed 100 lbs. steam. 2 Pumps for same. 1 large Heater.

Engines.

1 fine 16x42 left hand Hamilton Corliss Engine. 1 15x15 Center Crank Phoenix Automatic, fine order. 1 8x12 Ball Automatic Centre Crank, in fine order. Belting used on above and on electric machines.

Shafting.

1 Line 5" Shafting with floor stands, Clutch Pulleys and other Pulleys. 1 Idler. For full particulars write us at Cleveland, O.

Cleveland Belting & Mach. Co.
CLEVELAND, O.

ENGINES—Compound.

1 14 & 25x16 Ball & Wood, self-contained.
1 14 & 23x16 Tandem Ames.
1 13 & 23x18 Tandem Williams.
1 13 & 20 $\frac{1}{2}$ x15 Cross Armstrong & Sims.
1 13 & 19x15 Tandem McIntosh & Seymour.
1 18 & 21x16 Cross Erie Ball.
1 18 & 20x16 Westinghouse.
1 18 & 27x16 Westinghouse.
1 14 & 24x14 Westinghouse.
1 13 & 23x13 Westinghouse.

Simple.

1 18 $\frac{1}{2}$ x18 Armstrong & Sims.
2 16x16 Ball & Wood.
1 15 $\frac{1}{2}$ x24 Buckeye Tangy frame.
1 14 $\frac{1}{2}$ x24 Buckeye Tangy frame.
1 14x16 New York Safety Power Co.
2 13x18 Harrisburg Ideal.
1 11x12 McIntosh & Seymour.
9 $\frac{1}{2}$ x10 Armstrong & Sims.

BOILERS.

1 350 H. P. Franklin Water Tube, 140 lbs.
2 66x16 Return Tubular.
2 54x16 Return Tubular.

Rossiter, MacGovern & Co., (Inc.)

17 Battery Place, New York City, N. Y.

BRANCH OFFICES:
84 State St., BOSTON, MASS.
Missouri Trust Bldg., ST. LOUIS, MO.

FOR SALE.**Davis Calyx Drill,**

Class F, with appurtenances and 10 H. P. locomotive type Boiler on wheels, to run drill.

This drill is used for exploiting for minerals and for driven wells, and is very complete in all its appurtenances. It has been in use about ten months with best of care, and was new when purchased. Its capacity is guaranteed for 600 feet, but will bore deeper with sufficient drill rods. It cuts a 4 $\frac{1}{2}$ " hole and 3" core; 300 feet of drill rods, 131 feet of 5" extra black pipe for casing. Drive head and shoe. Cost complete over \$1800. Will sell for \$900 f. o. b. cars Sylvia, N. C.

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FOR SALE.

Several Hundred Tons of
 $\frac{1}{4}$ inch

Open-Hearth Tank Plate

63 x 156-inch.

E. KEELER CO., Williamsport, Pa.

Blower Bargains.

Special offer in Roots Second-Hand Blowers, all sizes up to No. 5.

Address H. M. PAPWORTH,
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BOILERS.

Four (4) 60" x 16" R. T. (So H. P.)
One (1) 56" x 14" R. T. (60 H. P.)
One (1) 54" x 13" Locomotive Portable (60 H. P.)
One (1) 48" x 12" R. T. (40 H. P.)
One (1) 44" x 14" R. T. (40 H. P.)
One (1) 60" x 17 $\frac{1}{2}$ " Marine.
One (1) 15 H. P. Portable on whee

ENGINES.

One (1) 23" x 48" L. H. Harris Corliss (300 H. P.).
One (1) 4 $\frac{1}{2}$ " x 4" Double Cyl. Automatic.
One (1) 17 $\frac{1}{2}$ " x 20" Side Crank.
One (1) 14" x 24" Side Crank.
One (1) 15" x 30" Side Crank.
One (1) 15" x 34" Side Crank.
One (1) 15" x 24" Side Crank.
One (1) 12" x 28" Side Crank.
One (1) 9" x 12" Side Crank.
One (1) 10 $\frac{1}{2}$ " x 15" Side Crank.
One (1) 10" x 16" Center Crank.
One (1) 9" x 12" Center Crank.
One (1) 8" x 12" Center Crank.
One (1) 10" x 12" Vertical Marine.

HOISTING ENGINES.

One (1) 6" x 8" Single Cyl., Single Drum (no boiler).
One (1) 6 $\frac{1}{2}$ " x 10" Double Cyl., Link Motion (no boiler).
One (1) 6 $\frac{1}{2}$ " x 8" Double Cyl., Double Drum (with boiler).
One (1) 6" x 10" Single Cyl., Single Drum (no boiler).
One (1) 5" x 7" Engine and Boiler.

HEATER.

One (1) 50 H. P.

ROCK CRUSHER.

One (1) 10" x 16" Hoagland.

WELL BORING OUTFIT.

One (1) 15 H. P. Complete Rig.

LOG HAUL-UP.

One (1) Lane Rig Complete.

PUMPS.

We have a large assortment of second-hand steam pumps in good condition. Also a large stock of second-hand pipe, valves, fittings, shafting, boxes, hangers, pulleys, wheels and axles. Write for detailed specifications and prices.

65c

Cameron & Barkley Company, Charleston, S. C.

FOR SALE.

2 25 H. P. and 2 50 H. P. balanced valve centre crank engines.

1 12 H. P. and 2 15 H. P. locomotive boilers and engines on wheels.

1 15 H. P. Peerless traction engine.

1 10 H. P. locomotive boiler on wheels.

1 90 H. P. locomotive boiler.

2 New Era graders, with 25 H. P. traction engines. Earth handling machinery, dump cars, railway, mining and contractors' equipment of every description.

If you want to buy or sell contractors' plant of any description, we can help you. Correspondence solicited.

CONTRACTORS EQUIPMENT CO.

Betz Building, Philadelphia, Pa.

FOR SALE.**Five Blowing Engines.**

36" Steam Cylinder, 84" Air Cylinder, 54" Stroke.

Engines were built by Cuyahoga Engine Works and can be seen in operation at our plant at Columbus, Ohio. Can be delivered about Jan. 1st.

The Columbus Iron & Steel Co.

COLUMBUS, OHIO.

BARGAINS—CHEAP.

One Deane Duplex Comp. Pump, 14x26x11x18.

One 30x13 Blake Pattern Crusher, nearly new.

Three Hoisting Engines. Rails, Locomotives.

L. E. KENNEDY & CO.

17 Broadway, New York City.

Do These Interest You?

1 20x30 Horizontal Engine, \$800.

1 8 $\frac{1}{2}$ x 10 Single Drum Mining Engine, \$400.

Other Hoisters, \$150 up.

Boilers, 36x96-42x90.

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Park Building, PITTSBURGH, PA.

FOR SALE.

75 K. W. direct connected set.

115 volts, excellent condition.

J. C. M. LUCAS,

22 Light Street, BALTIMORE.

FOR SALE.**Immediate Delivery.****AIR COMPRESSORS.**

Two Rand Straight Line, "Class C," 18" x 18" x 24", One Ingersoll-Sergeant, Class "G," Duplex, 20" x 20 $\frac{1}{2}$ " x 24".
One Norwalk (2 stage) 14" x 14" x 16 $\frac{1}{2}$ ".
Two Rand Duplex (3 stage) 10" x 14" x 18 $\frac{1}{2}$ " x 22".
One Rand Duplex Corliss, 20" x 20" x 36 $\frac{1}{2}$ ".

BOILERS.

Four Babcock & Wilcox Water Tube, 208 h. p. each, shaking grates.
Eight Horizontal Return Tubular, 66" x 16".
Three Horizontal Return Tubular, 72" x 16".
Four Horizontal Return Tubular, 72" x 16".
Three Horizontal Return Tubular, 60" x 16".
Nine Horizontal Return Tubular, 72" x 16".

ENGINE.

One 20" x 40" Buckeye, girder frame, band wheel in half, 12" x 31" face.

LOCOMOTIVES.

35" gauge Locomotives.
Four H. K. Porter 9" x 14", saddle tank.
Two Vulcan 9" x 14", saddle tank, built 1900.

RAILS.

200 tons 36-lb. steel rails.
200 tons 35-lb. steel rails.
500 tons 36-lb. steel rails.

CARS.

Eighty 80,000-lb. Ore Hopper Cars, made by Allison Mfg. Co.

PUMP.

1 Worthington Compound Duplex Condensing Pump, 25" x 17 $\frac{1}{2}$ " x 36", 20" suction and 18" discharge. Capacity, 3,000,000 gallons.
All of the above in A 1 order and ready for immediate delivery.

We buy and sell Air Compressors, Engines, Locomotives, Rails, Cars, Bridges, Boilers, Hoisting Engines and Pumps, etc. Complete plants purchased.

BOILER STACK.

1000 feet of 34" Boiler Stack, 5-16" material. This stack is first-class in every respect and will be sold at a bargain.

CYLINDER BOILERS.

8 Boilers, 40" long x 34" diam., good for 100 lbs. steam pressure, without fixtures or fittings. For quick sale will be sold cheap.

A. V. KAISER & CO.

222 South Third St., PHILADELPHIA, PA.

FOR SALE.

1 15x22 Standard Gauge Locomotive with tender, 1 15x22 Standard Gauge Locomotive with tender, 1 12x12x16 Class C Straight Line Rand Air Compressor.

Also have quite a number of New and Second-hand Hoisting Engines, Machine Tools, Lathes, Planers, etc., in stock.

CHAS. T. LEHMAN, Birmingham, Ala.

FOR SALE.

New I Beams and Channels cut to lengths for prompt delivery.

AN OLD ESTABLISHED MACHINERY AND SUPPLY BUSINESS FOR SALE.

Established more than 30 years ago.

For particulars address
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LATHES.

No. 72 14"x5' Lodge & Shipley.

No. 73 14"x5' Lodge & Shipley.

No. 49 20"x10' Taper, Lodge &

Shipley.

THE LODGE & SHIPLEY
MACHINE TOOL CO.

CINCINNATI, OHIO, U. S. A.

FANS.

Central station man's opportunity to increase the day load. We offer for immediate delivery, all f. o. b. Cincinnati, the following 125 cycle fans:

150 G. E. swivel and trun., 12 in., 104 volt., \$5.00 each.
150 Emerson solid, 12 in., 52 volt., \$3 each.
200 Westinghouse solid, 13 in., 52 volt., \$3.50 each.
100 G. E. swivel and trun., 12 in., 52 volt., \$4.00 each.

JOHN A. STEWART ELECTRIC CO.
430 Sycamore St., Cincinnati, Ohio.

SECOND-HAND TOOLS IN FINE WORKING ORDER.

16x6 Davis & Egan engine lathe, comp. rest, 18"x5" Hendey-Norton engine lathe, comp. rest, 21"x10" Lathe & Morse engine lathe, plain rest, 15" Hendey shaper, 21" Hendey shaper, 30" Prentiss Bros. drill press, back geared, power feed, 70" Gang radial drill, 62" Hills & Jones radial drill. No. 16 Garvin plain milling machine with vertical spindle attach. No. 2½ Garvin universal milling machine. No. 2 Garvin screw machine, plain head. No. 3 Pratt & Whitney screw machine, geared friction head. No. 4 Warner & Swasey screw machine, friction head, wire feed, collets and tools. 2"x12" Garvin screw machine and tools. 1" automatic screw machine, Pratt & Whitney. 2" automatic screw machine, Pratt & Whitney. No. 1 Diamond universal grinder. 30" Colburn boring and turning mill, with chuck. No. 4 diamond face grinding machine. Underwood portable milling machine. Underwood portable milling machine.

Photo and description on application.

THE GARVIN MACHINE CO.
Spring and Varick Sts., New York.

FOR SALE-ENGINES.

16"x24" Cooper automatic; 12½"x22" slide valve; 11"x16" center crank; 30 horse. Atlas automatic; 10 horse vertical; 5 horse vertical; 4 horse horizontal; two 14½"x24" Porter Allen's; 14"x24" Corliss; 13 horse Russell traction; 12 horse Kelly traction; 10 horse Garr Scott traction; 5 to 10 horse portable engines and boilers on wheels; one 25 horse portable engine and boiler on skids, Blandy make; one 20 horse portable engine and boiler on skids; one fire engine, Cole Bros. make. Boilers, 75 horse tubulars; 50 horse tubulars; 25 horse tubular; 25 horse Scotch boiler; 6 horse Scotch boiler, new; 35 horse Scotch boiler, new; two 12 horse vertical boilers; one 6 horse vertical boiler; one 5 horse vertical boiler; one 20 horse Stilwell & Bierce heater; one 20 horse Brownell heater; one heavy plate punch for boiler work; one 3 horse gasoline engine; one duplex McGowan pump; 2½" suction; one duplex Hall pump, 1½" suction; one copper boiler for marine or automobile, 3 horse; one 2 horse boiler for marine or automobile; 1000 pulleys different sizes; 1500 feet of belt, double and single; tanks, injectors, boiler tubes, machinery of every description, at one-third its actual value.

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MINE ENGINES.

Made by Dickson, 12"x18" cylinders, two loose drums on one shaft, link motion 9 ft. gear wheel, powerful construction.

WICKES BROS.
95 Liberty St., New York City.

FOR SALE. Partial List Second-Hand Machines

12"x18" Pratt & Whitney, rise and fall rest, with taper.
14"x24" Putnam, rise and fall rest.
14"x24" Prentiss, rise and fall rest.
14"x24" Blaisdell, rise and fall rest, with taper.
15"x24" Poeter, rise and fall rest.
15"x24" Prentiss, rise and fall rest, with taper.
18"x24" Pratt & Whitney, rise and fall rest, with taper.
18"x24" M. B. & C., plain rest.
18"x24" Fay & Scott, compound rest.
18"x24" Reed, plain.
18"x24" Lodge & Davis, compound rest and taper.
24"x10' No Name, incomplete.
28"x24" Betts Lathe, compound rest.
30"x24" Stark, plain.
38"x14" Betts Lathe, compound rest.
No. 3 B. & O. Turret.
No. 14 Garvin Special Forming Turret Lathe.
14"x16" Lodge & Barker Turret Lathe.
16"x16" Johnson Turret Lathe.
18"x16" Lodge & Davis Chucking Lathe.
Six-Spindle Mills, Bement & Co. Arch Bar Drill.
22"x16" Blackford Upright Drill.
20"x16" Barnes Upright Drill.
Three-Spindle Upright Slatte Sensitive Drill.
Three-Spindle Garvin Sensitive Drill.
24"x24"x16" Sellers Planer, one head.
42"x14"x16" Whitcomb Planer, two heads.
42"x14"x16" Betts Planer, one head.
16"x16" Smith & Miller Shaper.
No. 2 Keyseat Milling Machine.
No. 2 Garvin Plain Milling Machine.
No. 1 B. & S. Universal Milling Machine.
No. 44 Garvin Plain Miller.
No. 8 Garvin Plain Miller.
No. 2 Garvin Plain Millers.
No. 1 No. 45 Brainard Plain Miller.
No. 4 Schlenker's Double-Head Bolt Cutter.
2" Pratt & Whitney Cutting-Off Machine.
12" Lowell Machine Co.'s Slotter.
Double-Head Pratt & Whitney Horizontal Boring Mill.
Cold Saw, 15" Blade, Pump and Pan.
20" Springfield Knife Grinder.
Wells Bros. Cutter and Reamer Grinder.
Springfield Tool Grinder, 36" Wheel, with pump.
2 Speed Lathes.
28 H. P. Portable Boilers.
1 Blacksmith Bellows.
Also a complete line of new machines. Correspondence solicited.

BROWN & ZORTMAN MACHINERY CO.,
PITTSBURG, PA.

2ND-HAND TOOLS.

Lathes.
18 in. x 8 ft. Fifield.
20 in.-30 in. x 18 ft. Fitchburg, block lathe.
27 x 14" Geared, places, heavy.
28 x 18 ft. Fay & Scott.
17 Stewart Speed Lathes.
18 in. x 8 ft., comp. rest,
Lowell, Axle Lathes, Bement (2).
Planers.
24 in. x 4 ft. heavy. Leeds.
26 in. x 6 ft. L. W. Pond.
45 in. x 42 in. x 18 ft. Seelyers.
2 heads.
Shapers.
16 in. Geared, Western.
18 in. Ohio, crank.
22 in. Prentiss-Juengst.
Drills.
Ceiling, 3 ft. arm, Radial, Ceiling, Boilmakers.
Screw Machs.
No. 26 Garvin, ¾ in., with wire feed.
Garvin Hub Mch., ¾ in. hole.
Write your requirements.
G. L. BENNETT, 118 Liberty St., New York.

FOR SALE.

1. 20x36x48 Cross Compound Corliss.....\$3250
1. 18x42 Harris Corliss, overhauled.....1100
1. 14x48 Corliss600
1. 20x48 Corliss, first-class.....1000
1. 500 H. P. Berryman Heater.....150
1. 400 H. P. Knowles Comp. Jet Condenser.....250
STEAM PUMPS, HEATERS, TRAPS.
1000' 1" Pipe in three coils, ½ net price new.
4 36" Davidson Vent. Fans\$25 each
1 No. 4 Pedrick & Ayre Compressor, used three months, \$350.
1 MORSE WILLIAMS ELEVATOR.....\$125
1 WHITTIER ELEVATOR.....125

F. H. DAVIS & CO.
53 State Street, BOSTON, MASS.

FOR SALE.

One Second-hand "BERRYMAN" HEATER AND PURIFIER, in perfect condition and guaranteed good as new. Will sell cheap for cash. Address M. F., care Mfrs. Record,

Baltimore, Md.

Machinery Bargains.

SOME PEOPLE prefer new machinery; others like second-hand, with the stiffness worn down to smooth running. I sell both kinds. Let me send you a copy of my November 6th Bargain Sheet and Price List. It will interest and save you money.

WILLIS SHAW,
171 La Salle Street.

CHICAGO.

FOR SALE.

We have for sale a pair of Putnam engines, 20x42" cylinders, 75 revolutions, very extra heavy fly wheel in the center, 36" face, together with condenser, primary and auxiliary heater, and feed water pump and pipe connections between the two cylinders. They are rated at 300-h.p. at 80 lbs. pressure, without condensing. They developed 515 indicated horsepower last winter with condenser at 105 lbs. steam pressure.

We will sell the whole outfit delivered cars f. o. b. Fitchburg for \$2000.

Fitchburg Gas & Electric Light Co., Fitchburg, Mass.

BARGAINS FOR QUICK DELIVERY.

No. 2 Gates Crusher.
No. 3 Gates Crusher.
No. 5 Style B, Gates Crusher.
Double column Drop Hammer, cylinder 14"x 36"; fine order.
Good Second-Hand Engines.
12-ton Kelly Roller, fine as new.
New Well Drilling Machine, cheap.
Marion AA Shovel, fine condition.

WE SELL
Engines, Boilers,
Pumps and Quarry
Supplies,
Concrete Mixers,
Horse Rollers,
Steam Drills,
Air Compressors,
Belting, Hose,
and a full line of
Contractors' Supplies.

CONTRACTORS' SUPPLY & EQUIPMENT CO., { 232 Fifth Avenue,
CHICAGO.

BOILERS AND ENGINES.

BOILERS.

6 72"x10' Horizontal Tubular, 4" tubes.
3 60"x16' Horizontal Tubular, 4" tubes.
3 60"x16' Horizontal Tubular, 4" tubes.
12 60"x14' Horizontal Tubular, 4" tubes.

PORTABLE.

2 200 H. P. Vertical, 3" tubes.
1 100 H. P. Locomotive Type, 3" tubes.
1 80 H. P. Locomotive Type, 2" tubes.
2 60 H. P. Locomotive Type, 2" tubes.
2 150 H. P. Cahill Water Tube.

ENGINES.

10x14" Russell Automatic.
11x10" Westinghouse Standard.
12-24" Buckeye, style "A."
13x12" Ball Automatic.
14x16" Greene Automatic.
15x15" Taylor-Beach Automatic.
13x22x13" Westinghouse Compound.
16x12" Hamilton Corliss.
18x20" Slide Valve Engine.
20x24" McIntosh Hemphill Slide Valve.
23x16" Corliss.
24x33" Buckeye, style "B."
24x48" St. Louis Corliss.
26x48" Corliss.
28x60" Corliss.
32x34" Bates Corliss.
38x72" International Power Corliss.

This is but a small part of our stock, but our complete list will be mailed upon application.

WICKES BROTHERS PITTSBURG, PA.

ALSO

SAGINAW. NEW YORK. CHICAGO.

FOR SALE.

GASOLINE ENGINES, GENERATOR, SWITCHBOARD.
Two 60 H. P. Fairbanks-Morse Gasoline Engines, with all attachments complete. One 60 Kilowatt, 220 volt, alternating current Westinghouse Generator, with Exciter, Switchboard, instruments, etc. The above machinery is in operation and subject to inspection at any time. Installation of larger plant reason for desiring to sell. Engines and Generator suitable for electric lighting plant of reasonable capacity. Engines can be used to good advantage in small pumping plant.

R. H. WOODWORTH, Secretary,
Port Arthur, Tex. Port Arthur Water Co.

48-in. Riveted Steel Pipe

K and K inch in thickness.

E. KEELER CO., Williamsport, Pa.

GREAT BARGAIN.

125 H. P. Westinghouse Standard Engine, guaranteed condition.
Will buy 50 light T. H. or Brush Arc generator.

J. W. KOHN & CO.
16 Merwin Street, CLEVELAND, O.

FOR SALE CHEAP.

1 48-inch Double Cylinder Shoddy Card, Bramwell feed.
1 Broad Parks & Woolson Teasel Gig.
3 Finisher Frosts, 60 inches, 13 Rolls, Smith's make.
1 Finisher Front, 48 inches, 11 Rolls, Furbush make.
Address BOX 4, Clifton Heights, Del. Co., Pa.

FOR SALE.

1 22x52 R. H. Watts Campbell Corliss Engine.
1 10x12 Ideal Automatic Engine.
1 10x7x10 Worthington Duplex Pump.
1 15 ton Road Roller for sale or rent.
1 Little Giant Steam Shovel.
1 10x10 Worthington Duplex Pump.
Iron Tanks, 300 to 1000 gallon capacity.

JAS. S. BRADEN, 26 Cortlandt St., New York.

FOR SALE.

Two 156 horse-power Second-Hand Babcock & Wilcox Water Tube Boilers.

OIL WELL SUPPLY CO.
Twenty-first Street and A. V. Railway,
PITTSBURGH, PA.

Otto GAS ENGINE for Sale.

85 to 90 indicated H. P.; diameter of cylinder, 18½ inches; stroke, 24 inches; single acting; weight about 12 tons; two fly wheels, each having 3 grooves for 1½-inch rope.

MORGAN SPRING CO., WORCESTER, MASS.

FOR SALE.

Drain or Culvert Pipe.
125 lengths of 30" Cast Iron Pipe, practically as good as new, at Charleston, S. C.

FRANK SAMUEL,
Harrison Building, PHILADELPHIA, PA.

New and Second-Hand

Iron Tools and Woodworking Machinery
Corliss and Double Valve Engines for Trolley Roads and Electric Lighting Stations.

H. C. BAKER & CO.

114 N. 3d Street, Philadelphia, Pa.

MANUFACTURERS' RECORD.

35

In Stock. Immediate Delivery. Rebuilt and Guaranteed.

20'-40'x60" Cross Compound Corliss. 28"x60" Wetherill Corliss. 26"x60" Wetherill Corliss. 21"x42" Rickards Corliss. 20"x45" Frick Corliss. 20"x42" Slater Automatic. 22"x32" Watertown. 18"x34" New York Safety Vertical. 16"-27"x16" Westinghouse Compound. 14"-24"x14" Westinghouse Compound. 12"-22"x30" Porter-Alten Automatic. 3 12"-20"x12" Westinghouse Compounds. 16"x36" Wetherill Corliss. 16"x42" Harris Corliss. 16"x16" Green Automatic. 15 1/2"x15" Armstrong & Sims. 15"x15" Beck Automatic. 15"x30" Beck Automatic. 14 1/2"x15" Armstrong & Sims. 14 1/2"x15" McIntosh & Seymour. 15"x12" Armstrong & Sims. 13"x14" Vertical Pittsburgh Automatic. 12"x24" Buckeye Automatic. 11"x15" Ide Automatic. 12"x12" Armstrong & Sims. 11"x12" Atlas Automatic. 11"x12" Chandler & Taylor Automatic. 10"x16" Buckeye Automatic. 10"x15" Atlas Automatic. 3 1/2 H. P. Westinghouse Standard Automatics. 2 1/2 H. P. Westinghouse Juniors. And many others. Stock is constantly changing. Let me have a list of your wants.

BOILERS.

2 66"x18" Horizontal Tubulars, 125 lbs. steam. 6 66"x16" Horizontal Tubulars, 120 lbs. steam. 2 150 H. P. Wood Water Tube, practically new. Large stock of new and second-hand Horizontal, Vertical and Locomotive Boilers. 2500 H. P. Gourmet Heater. 3 500 H. P. Berryman Heaters. 60 large Steam Pumps, up to 12" suction, assorted sizes. 50 H. P. Otto Gas Engine. 40 H. P. Otto Gas Engine. Large stock of Dynamos, Iron and Wood Working Machinery. Send for Special Catalogue of 2500 pieces.

FRANK TOOMEY,

127-131 N. Third St. Philadelphia, Pa.

ENGINES.

One 18x42 Harris-Corliss Engine. One 16x20 S. C. Washington Iron Works' Engine self-contained. One 13x22 S. C. Cardwell Engine. One 11x18 C. C. Talbott Engine, Box-bed. One 14x16 S. C. Engine. One 11x15 Richmond Locomotive Works' S. C. One 11x14 A. & C. C. C. Engine. One 7x12 Vertical Engine. One 6 H. P. Vertical Engine. One 4 H. P. Vertical Engine. One 20 H. P. Farquhar Traction Engine. One 15 H. P. Aultman & Taylor Traction Engine. One 12 H. P. Birsdale Traction Engine. One 10 H. P. Frick Engine and Boiler mounted on wheels.

BOILERS.

One 80 H. P. High Pressure R. T. Boiler, good for 120 lbs. steam working pressure. One 80 H. P. R. T. Boiler. One 70 H. P. R. T. Boiler. One 60 H. P. R. T. Boiler, Half-Front. One 50 H. P. R. T. Boiler, Full-Front. One 50 H. P. Economic Boiler. One 40 H. P. Economic Boiler. One 40 H. P. R. T. Boiler, Half-Front. One 25 H. P. R. T. Boiler, Half-Front. One 20 H. P. R. T. Boiler, Half-Front. One 15 H. P. Locomotive Type Boiler on wheels. One 30 H. P. Vertical, and several smaller sizes. Also several sizes of pumps and other machinery. The above are in A-1 condition. Write for particulars.

Jno. A. Waters & Co., Richmond, Va.

Second Hand Machinery

FOR SALE BY

Riverside Mills, of Augusta, Ga.

One AD Cook Artesian Well Pump, described as follows: one 8x36 steam cylinder, one air chamber, one discharge check valve, one 3 1/2" water cylinder, one set 3 1/2" valves, 125% 3 1/2" IJ casing and 7 number 4 poles. Two American Stokers complete engine, blowers, etc., also extra set tuyere blocks and dead bars. One Cotton Tie Riveting Machine. One Vacuum Pump (Deane make). One No. 2 Nonpareil Mill. One Beans Pneumatic Coating Machine. One Simplex Engine. One Air Compressor (belt power) and Receiver. Three Chain Hoists. One DA DB Pulley 7 1/2"x13 1/2"x4 13-16" K. S. One DB Pulley 9 1/2"x12 1/2"x4" K. S. One DB Pulley 10 1/2"x14 1/2"x4 15-16". One Pulsometer described as follows: Suction 3", discharge 2 1/2", steam 5", to 1 1/2". Patented September 24, 1872 and March 8, 1881. Two 90 h. p. Boilers, front, grate bars, breast stays, rods, water columns, gauges, uptake and breeching complete.

A FINE ENGINE.

1100 H. P. Russell Engine Co. make, modern and up-to-date, heavy duty type, tandem comp. 24"x48"x30". Has 18" shaft, 30-ton wheel, 18 ft. diam., 44" face. Practically new.

WICKES BROS.

95 Liberty Street, NEW YORK CITY.

FOR SALE.

1-54 in. x 12 ft. horizontal tubular boiler. 1-12x20 horizontal engine. 1-7 and 14x10 fore and aft marine engine. 6 steam pumps—all sizes.

E. J. CODD CO., Baltimore, Md.

Bargains in Second-Hand Direct Connected Units.

One 50 K. W. "Eddy" generator directly connected to 13"x12" "Ames" horizontal automatic engine. 400 amperes, 125 volts, 250 revolutions.

One 25 K. W. "Westinghouse" generator directly connected to 10"x12" "Ball" hor. automatic engine, 125 volts, 240 amperes, 300 revolutions.

L. F. SEYBERT'S SONS,

437-441 N. Third Street, PHILADELPHIA.

BARGAINS IN DYNAMOS AND ENGINES

No. 321. One 18 1/2"x18" Armstrong & Sims Engine, complete with all oil cups and lubricator, cast iron sub-base, weight 760 lbs. dia. x 21" face; governor wheel 72" dia. x 10" face; 200 H. P. at 175 r. p. m., 90 lbs. steam pressure; together with one Stanley Electric Mfg. Co. Dynamo, 150 K.W., type 2 P, volts 1100 and 2200; alternations 2000, speed 1000, A. C. belted machine.

No. 297. One 12"x14" Fitchburg Automatic Centre Crank Engine with granite sub-base; belt wheel 62" dia. x 14" face; governor wheel 48" dia. x 12" face; complete with all oil cups and fittings, together with one 35 Arc Light Thompson-Houston Dynamo, two pole, with automatic regulator, fitted with Thompson Air Blast, with pulley and oil cups, direct current.

No. 37. Two Weston 15"x16" Center Crank Automatic Engines, fly wheel 72"x12". These engines are fitted up with shaft and clutches to throw either engine out or in, with one 60 K.W. Stanley Generator, A. C. 2200 volts, 1000 r. p. m., two phase. Also other engines, boilers, pumps, etc. Send for List No. 10.

All of the above machinery is in excellent condition, ready for immediate delivery.

Huntington Machinery & Supply Co.

WILKES-BARRE, PA.

J. W. CREGAR Agency PERMANENT MACHINERY EXHIBIT

The Bourse, Philadelphia

FOR SALE AT BARGAIN PRICES

PLATE PLANER.

Made by Hilles and Jones Company.

Length over all, 17' 8"; length of Plate it will plane, 14' 0"; number of screw clamps, 9"; diameter screw clamps, 1 1/2"; pitch screw clamps, 5 1/2" thds. per inch; diameter feed screws, 3 1/2"; pitch feed screws, 1 1/2"; one tight pulley, 4"; face 22" diam.; two loose pulleys, 1 1/2" face 22" diam.; countershaft, 23 1/2" diam., 16" 6" long, with tight and loose pulleys, 20" diam., 5" face and driving pulley, 30" diam., 22" face; weight, approximate, 2500 lbs.; used about 18 months; condition, good.

Price, \$1200.00, f.o.b. Wilmington, Del.

ANGLE SHEAR.

Made by Hilles and Jones Company.

Type, double right and left; used about 18 months; capacity, 5" angle irons; weight, 7,500 lbs.

Price, \$600.00, f.o.b. Wilmington, Del.

One (1) 24-27" American Turret Lathe Manufacturing Company, S E M I - A U T O M A T I C turret lathe with two (2) duplex tool holders and 8 bars, practically as good as new in every respect. Cost, new, \$1850.00. We offer it for **\$1450.00, f.o.b. Buffalo, N. Y.**

We guarantee it strictly in A-1 condition.

One Ferrucate Machine Co., SG No. 66 Press, made special, geared, 5 ft. 3 in. between frames, 1 1/2" in. stroke, weight 16,000 lbs. This machine is new and a special price will be made to move it quickly.

One (1) Philadelphia Machine Tool Co., No. 3 Double Crank Press with automatic positive clutch, heavily geared, 5 1/2" in. between frames, 1 1/2" in. stroke. Weight 4600 lbs. The above press is new and specially low price will be made to move it promptly.

One (1) Perkins Punch and Shear Machine, 34 in. depth of throat, single ended, capacity to punch 1 in. hole in 1 in. iron, and with punch, die and shearing blades. Weight 11,500 lbs., net. Price, \$375, f. o. b. cars Philadelphia. This is a new machine and low price put on it to move it promptly.

Two (2) No. 6 A Gorton Universal disc Grinders with 16 in. disc, all complete, \$270 each, f. o. b. Philadelphia. These machines are new and complete in every way.

J. W. CREGAR AGENCY,
Machinery Hall,
The Bourse, Philadelphia, Pa.

FOR SALE.

Cotton Machinery Taken From a Plant Closing Down and as Good as New.

53 44" Lowell Looms.
66 36" Lowell Looms.
1 40" Curtis & Marble Finishing Machine.
1 45" Boomer & Boschart Baling Press.
1 45" Stafford Folder.
1 45" Dinsmore Sewing Machine.
Hughes & Russum Beamers.

Prices given on application.
Machinery all on the floor and can be examined.

JAMES S. GARY & SON,
Baltimore, Md.

FOR SALE Cotton Machinery, of Entire Plant.

154—LOOMS—154

10—QUILLING MACHINES—10

Complete DYE HOUSE and ALL other machines for weaving cotton. Thousands of feet BELTING, SHAFTING, PULLEYS, HANGERS, Etc., Etc.

ALL will be disposed of at great sacrifice, as the entire plant has been sold for a wood working business.

American Oak and Hickory Reed Co.
NEWPORT, TENN.

FOR SALE—LOCOMOTIVES.

Baldwin 56-ton Consolida'n, cyls. 20x24, first-class. Baldwin 50-ton Mogul, cyls. 18x24, first-class. Baldwin 22-ton 4-Driver, saddle tank switcher, 2-wheel front truck, cyls. 11x18; just overhauled. Porter 3-foot Saddle Tank, 6-driver, cyls. 10x16, weight 17 tons, very good order, quick delivery. Many other Engines, various gauges, geared and straight connected. Write for prices.

THE MALES CO., 256 Broadway, New York, N. Y.; 713 Traction Building, Cincinnati, O.

FOR SALE.

17 NEW 36" gauge 30,000 lbs. capacity

Flat Cars

For Prompt Shipment.

Kilby Locomotive & Machine Works,
ANNISTON, ALA.

Clyde Machine Works

39th and Union Ave., CHICAGO, ILL.

A SMALL AMOUNT will buy

Pulverizing Machinery

for

Cement, Barytes, Talc, Foundry Facing, Etc.

We have three Cylindrical Pulverizers or Pebble Mills, made by the West Pulverizing Machine Co. These Mills will reduce your material cheaply and quickly.

They are New and Complete
With all parts.

FOR SALE BY

BAKER, STILLWELL and HART,
Birmingham, Ala.

FOR SALE.

25 horse power rebuilt Nash Gas Engine, direct connected to 18-K.W. Crocker-Wheeler dynamo.

Also one 30-K.W. 115 volt compound Siemens & Halske Bi-polar Dynamo.

GRAHAM BROS. CO., Hudson & 13th Sts., N.Y.

BARGAIN—\$2600 EACH.

3 500 H. P. 17 and 33 1/2x28 Condensing Lake Erie Engines, 138 R. P. M. Excellent condition.

CHARLES F. JOHNSON,
935-7 Ellicott Square, BUFFALO, N. Y.

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3 500 H. P. 17 and 33 1/2x28 Condensing Lake Erie Engines, 138 R. P. M. Excellent condition.

CHARLES F. JOHNSON,
935-7 Ellicott Square, BUFFALO, N. Y.

FOR SALE.

We own a choice lot of

RELAYING

30 lb. and STEEL RAILS
and Splice Bars and Spikes for same. Also a number of Frogs, and Stub and Split SWITCIES.

If you want to buy either new or re-laying Rails—any weight, or Switches, write us.

ROBINSON & ORR,

419 Wood Street, PITTSBURGH, PA.

SPECIAL LOCOMOTIVE SALE.
We own and offer the following Locomotives at the most attractive prices in the market.

Standard Gauge.

18x24 Cylinders, 10 Wheeler Rogers (A Bargain)

18x22 Cylinders, 10 Wheeler Baldwin (Just rebuilt)

17x24 Cylinders, Passenger Baldwin (A Bargain)

16x24 Cylinders, Passenger Taunton (Rebuilt)

15x22 Cylinders, Passenger, 27 tons

15x24 Cylinders, Passenger (Rebuilt)

10x16 Cylinders, Passenger Porter (Rebuilt)

9x14 Cylinders, Saddle Tank Porter (Rebuilding)

36-Inch Gauge.

13x20 Cylinders, C. & N. W. Passenger (Excellent Condition)

10x14 Cylinders, Porter Saddle Tank.

10x14 Cyl., Porter Saddle Tank, 36", 42", 44" Gauge.

9x14 Cyl., Vulcan Saddle Tank, 42", 44" Gauge.

7x12 Cylinders, Shay Geared (wood or steel rail).

8x7 Cylinders, Dunkirk Geared, 14 tons.

6x12 Cylinders, Petersburg Geared, 12 tons.

5x12 Cylinders, Porter Saddle Tank, 8 Tons.

5x12 Cylinders, Porter Saddle Tank, 10 Tons.

6x10 Cylinders, Porter Saddle Tank, 6 Tons.

Standard and Narrow Gauge Passenger and Combination Coaches, Box, Flat, Logging, Dump, Gondolas and Caboose Cars. Prompt delivery.

Specifications and prices furnished on application.

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Main Office, Norfolk, Va. Shops, Suffolk, Va.

FOR SALE.

New Light Steel Rails,
ALL WEIGHTS,
WITH
Track Fastenings.

THE STEEL RAIL SUPPLY CO.

100 Broadway,

NEW YORK, N. Y.

RAILS.

We own 1000 Tons 35 lb. First Class Re-laying Steel Rails with Fastenings, in East Texas, on 3 large Railroads 8, 12, 16 and 20 lb. New Steel in our warehouse. 25 to 40 lb. New Steel in stock at Mill. New and Relay any weights.

Locomotives, Equipment and Supplies of all kinds.

WESTERN SUPPLY & MFG. CO.

East St. Louis, Ill.

NEW, LIGHT STEEL RAILS

FOR SALE.

Immediate Shipment.

16, 20, 25, 30 and 35-lb. Steel "T" Rails

with complete joints.

CLEARFIELD STEEL & IRON CO.

Mills at Clearfield, Pa.

Offices, German Natl. Bank Bldg., PITTSBURG, PA.

FOR SALE CHEAP.

Six Standard Gauge Locomotives.

In good condition. Weight on drivers 25 tons.

CAINE & PLITT,

824 Real Estate Trust Bldg., PHILADELPHIA, PA.

Contractors' Material**For Sale or Rent.**

LOCOMOTIVES—One 10x16, 36" gauge with tender.
One 10x12 standard gauge Baldwin dummy type.
Three 16x24 S. G. American type, with tenders.
One 36" gauge 5½x7 Byers geared.

One 12-ton Davenport, 36" new.
One Baldwin 36" gauge in good order.

One 8x16, 40" gauge Bailey saddle tank.

CARS—Both narrow and standard gauge, dumps and flats.

STEAM SHOVELS—several Little Giants, Marions, etc., too numerous to mention.

TRACTION ENGINES—Three, from 18 to 25 horse power each.

PUMPS—One Worthington compound duplex steam, 12x18½x10½x10.

HOISTING ENGINES—about 7½x10 d c d with or without boiler, about 8x10 d d c without boiler, male and female friction hoist, and others.

Stationary engines all sizes, crushers, boilers, etc.

HARPER MACHINERY CO.
Park Row Building, New York.
Yards and Shops, Newark, N. J.



MANUFACTURERS

Light Steel Rails

16-20-25-30-35 and 40 lbs. per yard.

Prompt shipment on all orders.

SCHONTHAL IRON & STEEL CO.

Mills and General Offices,

CUMBERLAND, MD.

RAILS—LOCOMOTIVES.

400 tons 35 and 40-lb. steel relay rails.
Locomotives—Narrow and standard gauge. 50 locomotives on hand.

Southern Iron and Equipment Co.
ATLANTA, GA.

40-Pound Relay Steel Rail.

200 tons for sale cheap.

WALTER A. ZELNICKER SUPPLY CO.
Department M. In St. Louis.
Shall we send you our Daily Rail and Equipment Bulletin?

FOR SALE.**NEW STEEL RAILS.**

12, 16, 20, 30, 35 and 40 lbs., with splice bars, bolts and spikes. Immediate shipment from stock.

JOHN J. HAMEL & CO.
House Building. PITTSBURGH, PA.

FOR SALE—RAILS.

For immediate shipment from stock, 8, 12, 16, 20, 30, 40, 50, 75, 80 and 85-lb. New Rails. Also 20, 25, 30, 40, 50, 56 and 60-lb. Relayers, for prompt shipment. Cut Rails a Specialty.

RICHARDSON & CO., Inc.
200 Ninth Street, PITTSBURGH, PA.

FOR SALE.

1 9x14 Locomotive, 36" gauge.
9 Chicago Pneumatic Riveting Hammers.
3 Philadelphia Pneumatic Riveting Hammers.
1 125 H.P. return tubular Boiler, 125 lbs pressure.
1 Air Compressor, 14-16x18, high pressure.

J. C. Saxton, 18 Broadway, New York City, N.Y.

FOR SALE.

Several Narrow Gauge Engines 10 to 20 tons; also standard from 40 to 60 tons. 1 16x24 Switcher in splendid condition. Stationary Boilers and Engines. 1 Perkins Shingle Machine as good as new. Agent for the Russel Wheel and Foundry Co. Cars. Also the Parker Steam Skidder.

J. H. MACLEARY & CO.
Suffolk, Va.

RAILS.

LIGHT SECTIONS, 8 TO 40 POUND.
Special Price to Dealers.

UNION RAIL COMPANY,
Farmers Bank Building, PITTSBURG.

For Sale—Locomotives and Rails.

One 20x24 Baldwin Consolidation.
One 19x24 Dickson American type.
One 18x24 Dickson Mogul.
Three 17x22 Dickson Six-wheel Switchers.
One 15x22 McQueen American type. A bargain.
One 13x22 Dickson Four-wheel Saddle Tank.
One 12x16 Baldwin Forney type.
One 9x11 Porter Four-wheel.

All of the above standard gauge.

In 3 ft. Gauge we have:

One 12x16 Mason Forney type.
One 8x16 Porter Four-wheel Saddle Tank.
One 8x12 Shay Geared, built in 1890, (in South Carolina).

One 7x12 Baldwin Four-wheel Saddle Tank.

Also New and Relaying Rails of all weights.

BIRMINGHAM RAIL & LOCOMOTIVE CO., Birmingham, Ala.

**N. Y. Elevated R. R.
LOCOMOTIVES**

Ready for Immediate Delivery.

Excellent Condition.

4' 8½" Gauge, Forney Type, Cylinders
11"x14," 11"x16," 12"x16."

Suitable for Logging Roads, Contractors, Switching, &c.

BENJAMIN WATSON,
(Coffee Exchange Bldg.)
68 to 70 Beaver Street, N. Y. CITY.

Steel Rails, Cars, Locomotives, R. R. Supplies.

FOR SALE.

300 tons 60½-lb. steel relaying rails with angle bars, Alabama and Georgia delivery.

900 tons 70-lb. steel relaying rails with angle bars, Ohio delivery.

500 tons 45-lb. steel relaying rails with angle bars, Ohio delivery.

Second-hand locomotives, coaches, steam shovels, and other railway and contracting material.

THE ISAAC JOSEPH IRON CO.

525-531 Hunt St., Cincinnati, Ohio

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LOCOMOTIVES.

50-ton Freight and Switch Engines for prompt delivery.

RAILS AND CARS.

MAY & SPALDING,
ATLANTA, GA.

R. S. ARMSTRONG & BRO.
ATLANTA, GA.

IRON BROKERS.

And dealers in New and Second-hand Machinery. Also carry in stock Hoisting Outfits and Light Section Rail for contractors' use.

NEW STEEL RAILS.

We have a large quantity of steel, A. S. C. E. section, various weights, with or without fastenings, for immediate or future delivery. Also have "seconds" for sale.

O. W. DAVIS & CO., 68 Wall St., New York City.

WANTED.

To purchase or lease for a term of years 500 standard gauge coal cars in good condition for immediate use.

Kelley's Creek & Northwestern R. R.
Cedar Grove, W. Va.

Locomotives and Cars for Sale.

One 14-ton Baldwin, rear tank, standard gauge.
One 8-ton 7x12 Porter 4D Saddle Tank, 42" gauge.
One 17-ton Climax Geared, 36" gauge.
Five Climax logging cars, 36" gauge.
Steam shovels, hoisting engines, etc.

THE EDGAR N. LOW CO.

Empire Building. PITTSBURGH, PA.

Locomotives, Cars, Steam Shovels.

7 Standard Gauge Passenger Cars for sale or lease.

Locomotives, Stand. or Narrow Gauge.

The Cincinnati Equipment Co.
Works, Cullum Sta. CINCINNATI, O.

FOR SALE.**New Steel Tee Rails**

60 to 80 lb. A. S. C. E. section.

Delivery guaranteed.

RAILWAYS BUILT and FINANCED.

C. H. RUTTER, Easton, Penna.

FOR SALE.

Four (4) 18"x22" Cylinder Baldwin, ten-wheel Freight Standard Gauge Locomotives, weight about 42 tons; six drivers, 50" diameter; separate eight-wheel tender.

One (1) 14"x22" Cylinder, Baldwin six-wheel Locomotive (four drivers 50" diameter, pony truck in front, with separate eight-wheel tender).

Twenty (20) Flat Cars, 30' long, 20 tons, capacity, Diamond Trucks, M. C. B. Automatic Couplers, hand brakes.

Twelve (12) Coaches, 51' over all; carry 54 passengers; good coaches; cheap.

Two (2) Baggage Cars, same length; carry 28 passengers; all equipped with Westinghouse Air Brakes.

NEW YORK EQUIPMENT COMPANY,

18 Broadway (Room 826), New York.

2 Little Giant Steam Shovels, \$2500.00 each, Pittsburg

1 Little Giant Steam Shovel, \$1800.00, Pittsburg

Three 9x14 36" gauge Porter Locomotives, almost new, \$2500.00 each, Stewart, Pa., P. R. R.

Booth & Flinn, Limited.
Pittsburg, Pa.

SPECIAL LOT**LOCOMOTIVES**

All Types and Weight

COACHES

Excellent Condition

CARS

Of All Description

Excellent Condition

Immediate Delivery

FITZ-HUGH, LUTHER CO.

(Successors to Fitz-Hugh & Co.)

Main Office—Monadnock Block, CHICAGO.

Flat Cars

Up to 100,000 lbs. capacity.
Wood or Steel—Quick deliveries.
Trucks, Wheels, Brasses, Etc.

Apex Equipment Co.
7-9 Broadway,
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Patapsco Machine & Supply Co.
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Brass Hardware and Specialties,
Railroad, Steamboat and Contractors' Supplies.
Second-Hand Machinery Bought and Sold.

RELAYING**56 and 60-lb.****RAILS.**

With heavy angle splice bars
An unusually fine lot of relayers. Quick ship-
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Philadelphia, Penna.



SOLE MANUFACTURERS OF FRED.G.WEIR'S IMPROVED RIGID & SPRING FROGS,CROSSINGS, SINGLE & THREE THROW SPLICE SWITCHES, FIXED & AUTOMATIC SWITCH STANDS,STEEL DIE FORMED RAIL BRACES,SWITCH FIXTURES,ETC

CABLE & ELECTRIC TRACK WORK
FROGS,SWITCHES,CROSSINGS,CURVES,RAIL CHAIRS,ETC

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A strictly high grade European hotel for gentlemen.

Appointments and service the very best.

RATES:

\$1.00, \$1.50 and \$2.00, with Private Bath.

AMERICAN TYPE FOUNDERS CO.

ORIGINATORS OF

TYPE STYLES**ELECTROTYPES**

BEST EQUIPPED PLANT IN THE SOUTH

NICKELTYPES

FOR HALF TONES. SOMETHING NEW. BIG SAVING IN THE PRESSWORK. MAKING READY MADE EASY

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WRITE FOR SPECIAL PRICES AND DISCOUNTS

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BALTIMORE, MD.

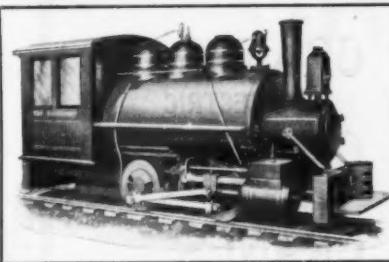
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Davenport Locomotives

Broad and Narrow Gauge,

especially adapted to Contract Work and Industrial Service.

In Stock for Immediate Shipment.



Steam Shovels, Cars, Boilers, Engines, Concreting Apparatus, etc., new and second hand; New and Relaying Rail. Dump Wagons, Carts, Wheel and Drag Scrapers, Plows, &c.

N. C. HEISLER & COMPANY,

Office and Warehouses, 2304-6-8 Washington Ave., Philadelphia, Pa.

FOR SALE.

Danville & Western Railway Co., Danville, Va., has for sale three narrow gauge locomotives, one Passenger type and two Moguls.

A lot of coaches, flat cars, and box cars, also about 30 miles of 35 lb. relaying steel.

Both the equipment and the rail is in good condition, ready for immediate service and delivery.

For prices and specifications, write to

THEO. PARKER, Superintendent,
DANVILLE, VA.

NEW RAILS.

12,500 tons New Steel T Rails, 60, 70, or 80 lbs. per yard. July and August delivery.

Railroad Construction.

Steam and Electric Roads Built and Financed.

JUSTICE COX, JR., & CO., LIMITED,
552-554 Bullitt Bldg., Philadelphia.
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F Locomotives, New and 2nd Hand. Cableway 600 feet long complete. 200-ton 56 lb. Relaying Rails. 40-ton 70 lb. Relaying Rails. 45-ton 25 lb. Relaying Rails. 80-ton 30 lb. Relaying Rails. New Rails, all weights. 1½-yd. Marion Improved "A." 1¼-yd. Bucyrus, 45-ton.

A CLARK & HINES
Baltimore, Md.

R. R. Equipment, Mine and Contractors' Supplies.

FOR SALE.

1 Locomotive, 36" gauge, 11x16, 15-ton capacity. 9 Box Cars, 54" long, 60,000 lbs. capacity. 30 Box Cars, 50" long, 40,000 lbs. capacity. 200 tons 56-lb. Steel Relayers. 150 tons 60-lb. Steel Relayers. 50 tons 53-lb. Steel Relayers. Also New Rails, 8 to 40 lbs.

L. WOLF & BRO.,
51-52 Mitchell Bldg., CINCINNATI, OHIO.

RAILS.

New Rails from 12 to 40 pounds and heavier, also relaying rails, frogs, switches, crossings of regular steel, also Manganese steel which outlasts the ordinary steel 10 to 1. Prices on application.

STRINGFELLOW & WEBSTER,
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J. E. FRANKS

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**RAILS, CARS AND LOCOMOTIVES, FROGS,
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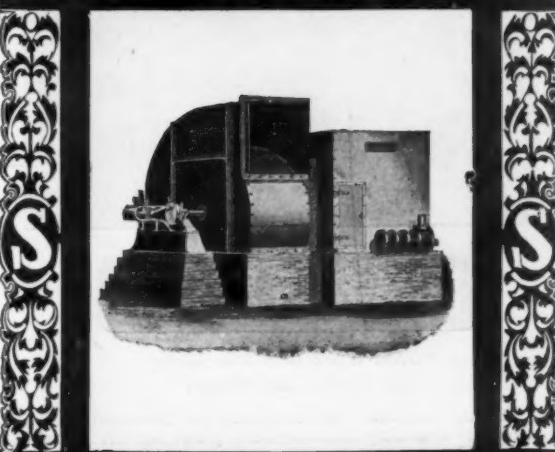
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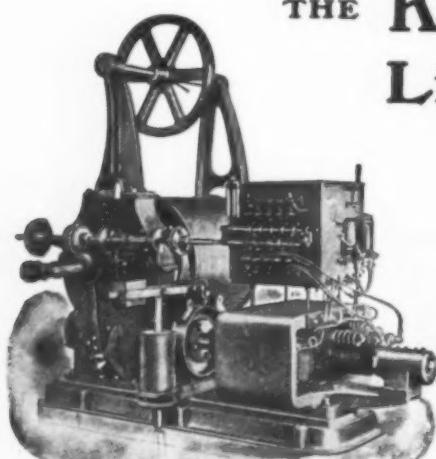
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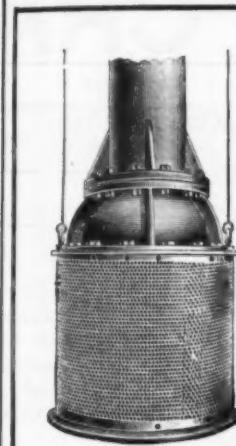
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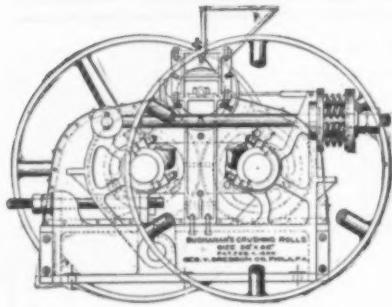


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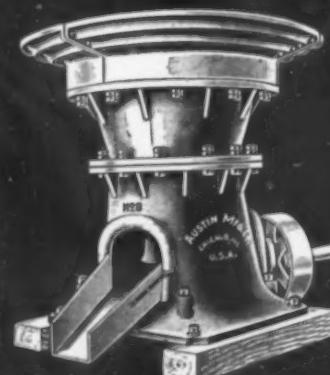


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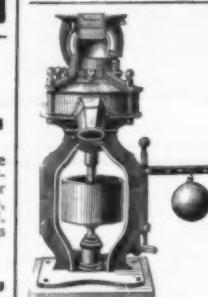
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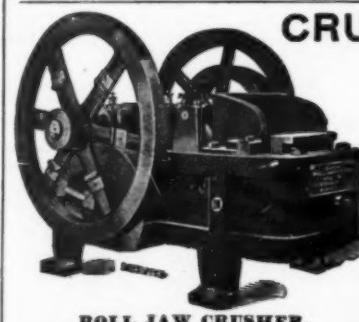
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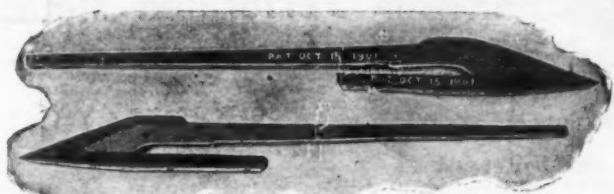


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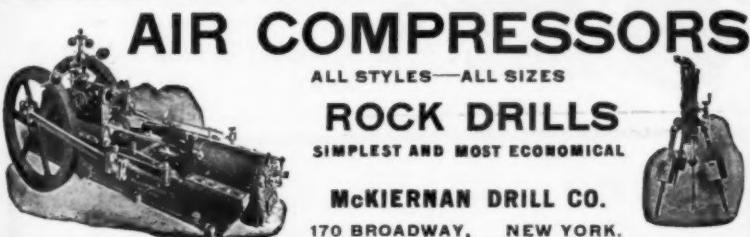
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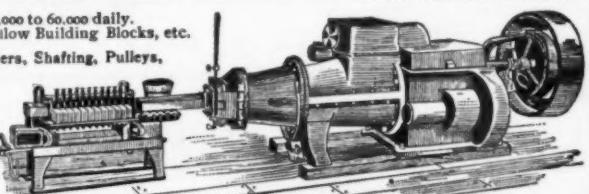
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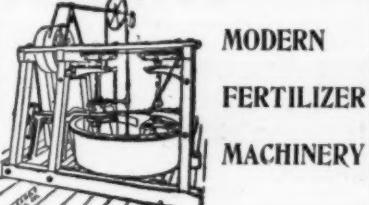
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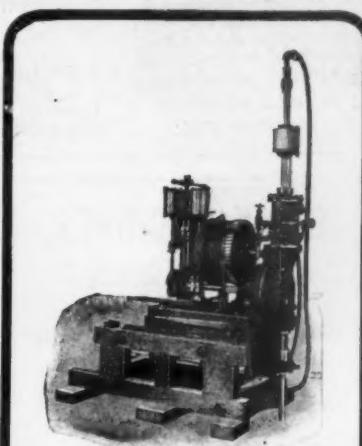
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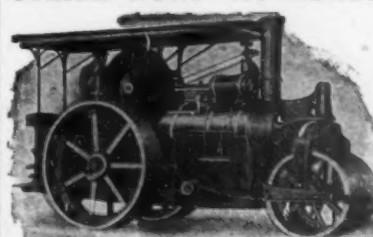
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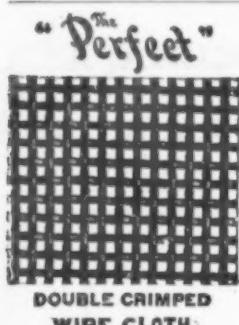
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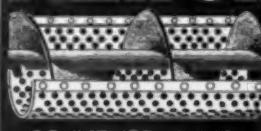
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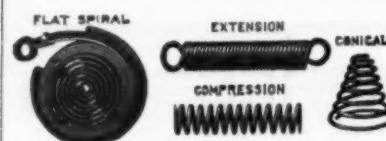


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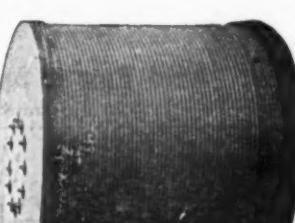
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8-in.....	18 "	8-in..... 11½ "
9-in.....	22½ "	10-in..... 15 "
9-in.....	21 "	12-in..... 20½ "
9-in.....	25 "	15-in..... 30 "
10-in.....	25 "	Angles—Even Legs
10-in.....	30 "	2-in. x 2-in. x ¼-in.
12-in.....	31½ "	2½-in. x 2½-in. x ¼-in.
12-in.....	40 "	3-in. x 3-in. x ¼-in.
15-in.....	42 "	3-in. x 3-in. x ½-in.
15-in.....	50 "	3½-in. x 3½-in. x ½-in.
18-in.....	55 "	4-in. x 4-in. x ½-in.
20-in.....	65 "	4-in. x 4-in. x 5/16-in.
24-in.....	80 "	(Continued)
		4-in. x 4-in. x ¾-in.
		4-in. x 3-in. x ¾-in.
		4-in. x 3-in. x 7/16-in.
		5-in. x 3½-in. x ¾-in.
		5-in. x 3½-in. x 5/16-in.
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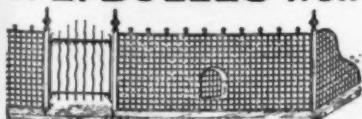
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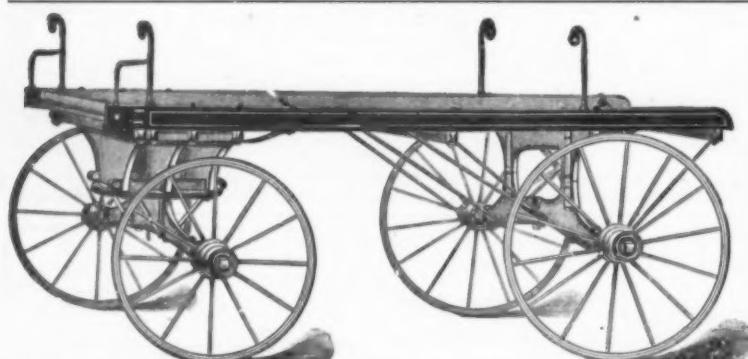
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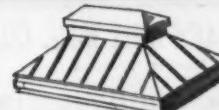
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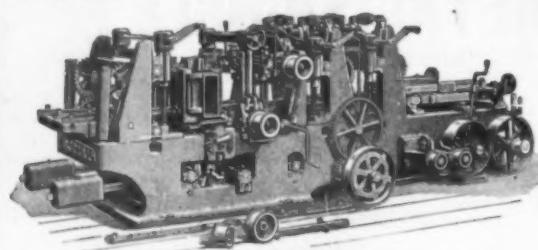
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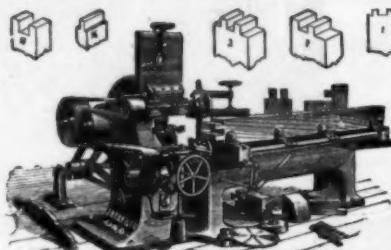
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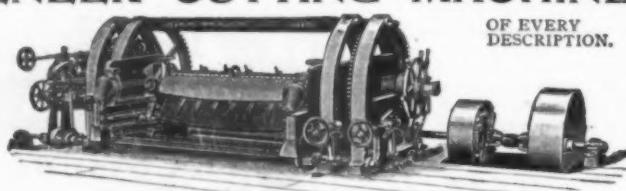
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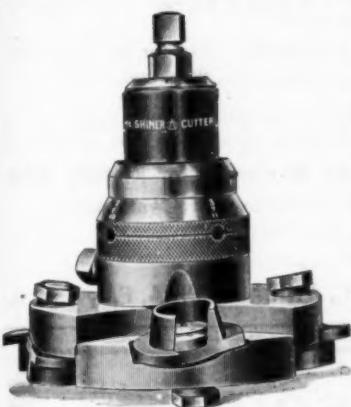
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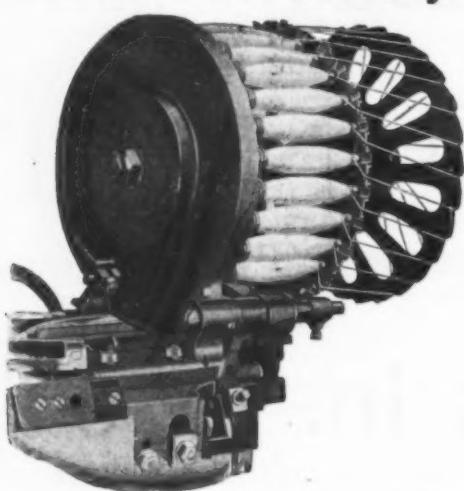
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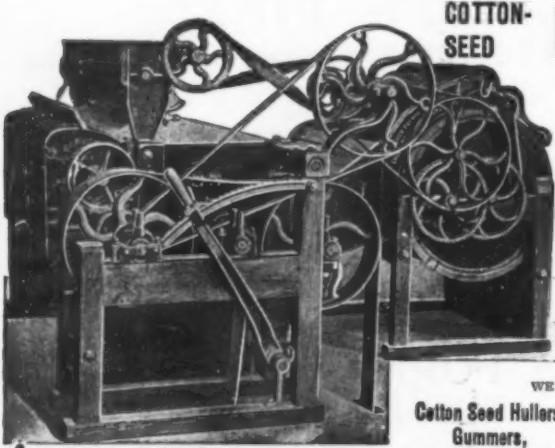
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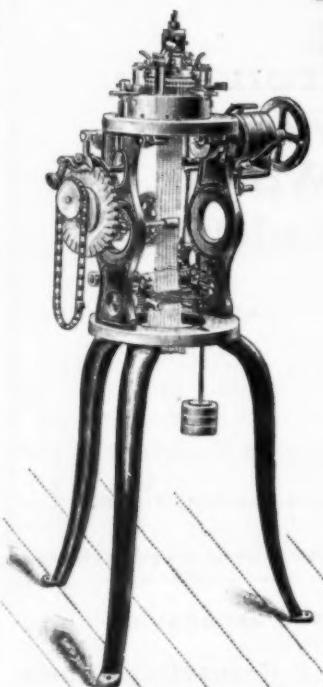
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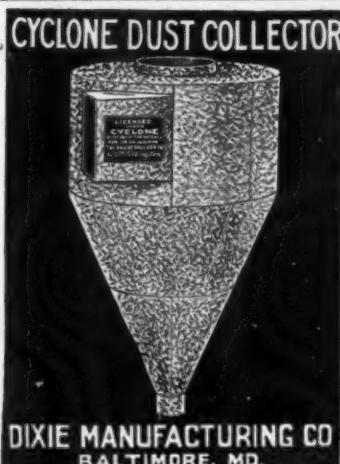
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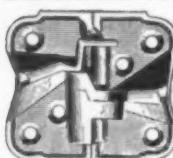
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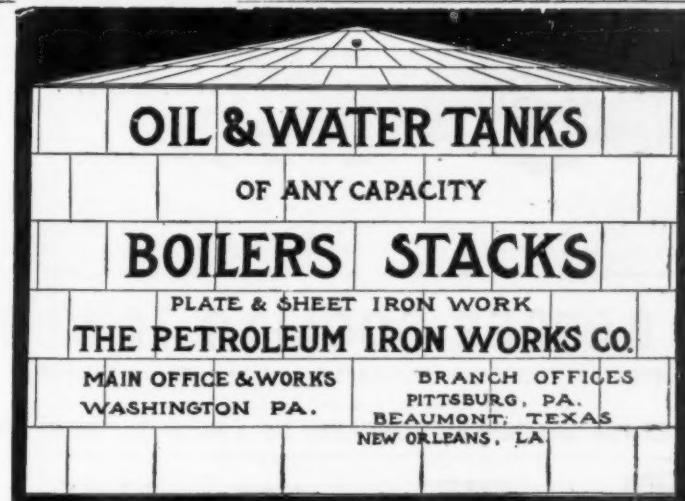
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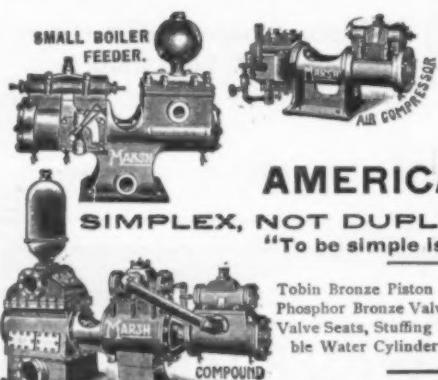
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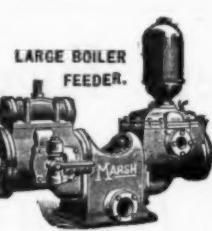
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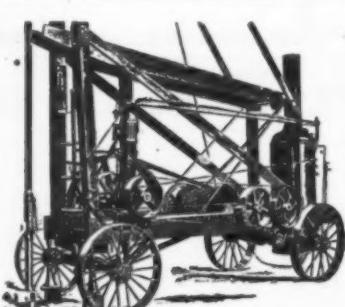
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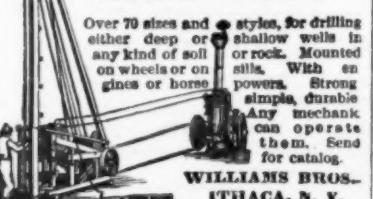
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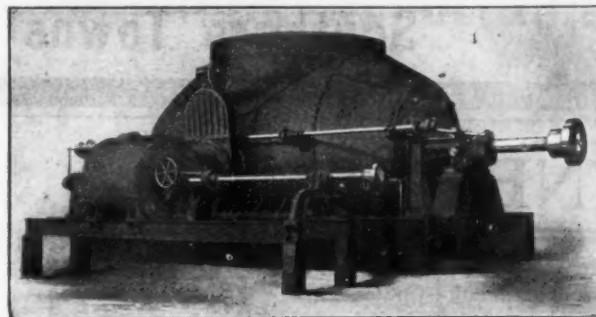
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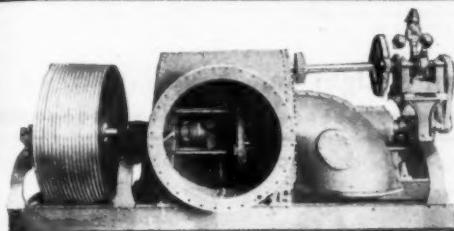
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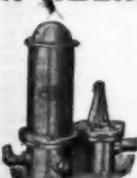
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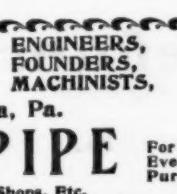
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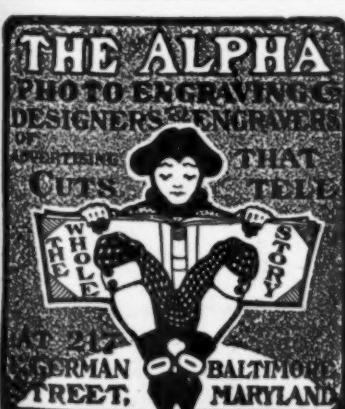
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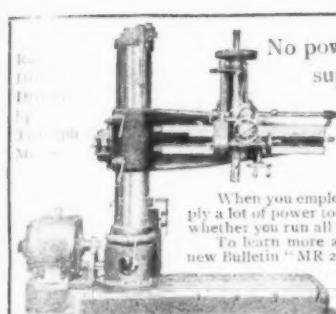
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